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NEWS 2	JAN 08	CHEMLIST enhanced with New Zealand Inventory of Chemicals
NEWS 3	JAN 16	CA/CAplus Company Name Thesaurus enhanced and reloaded
NEWS 4	JAN 16	IPC version 2007.01 thesaurus available on STN
NEWS 5	JAN 16	WPIDS/WPINDEX/WPIX enhanced with IPC 8 reclassification data
NEWS 6	JAN 22	CA/CAplus updated with revised CAS roles
NEWS 7	JAN 22	CA/CAplus enhanced with patent applications from India
NEWS 8	JAN 29	PHAR reloaded with new search and display fields
NEWS 9	JAN 29	CAS Registry Number crossover limit increased to 300,000 in multiple databases
NEWS 10	FEB 15	PATDPASPC enhanced with Drug Approval numbers
NEWS 11	FEB 15	RUSSIAPAT enhanced with pre-1994 records
NEWS 12	FEB 23	KOREAPAT enhanced with IPC 8 features and functionality
NEWS 13	FEB 26	MEDLINE reloaded with enhancements
NEWS 14	FEB 26	EMBASE enhanced with Clinical Trial Number field
NEWS 15	FEB 26	TOXCENTER enhanced with reloaded MEDLINE
NEWS 16	FEB 26	IFICDB/IFIPAT/IFIUDB reloaded with enhancements
NEWS 17	FEB 26	CAS Registry Number crossover limit increased from 10,000 to 300,000 in multiple databases
NEWS 18	MAR 15	WPIDS/WPIX enhanced with new FRAGHITSTR display format
NEWS 19	MAR 16	CASREACT coverage extended
NEWS 20	MAR 20	MARPAT now updated daily
NEWS 21	MAR 22	LWPI reloaded
NEWS 22	MAR 30	RDISCLOSURE reloaded with enhancements
NEWS 23	APR 02	JICST-EPLUS removed from database clusters and STN
NEWS 24	APR 30	GENBANK reloaded and enhanced with Genome Project ID field
NEWS 25	APR 30	CHEMCATS enhanced with 1.2 million new records
NEWS 26	APR 30	CA/CAplus enhanced with 1870-1889 U.S. patent records
NEWS 27	APR 30	INPADOC replaced by INPADOCDB on STN
NEWS 28	MAY 01	New CAS web site launched
NEWS 29	MAY 08	CA/CAplus Indian patent publication number format defined
NEWS 30	MAY 14	RDISCLOSURE on STN Easy enhanced with new search and display fields
NEWS 31	MAY 21	BIOSIS reloaded and enhanced with archival data
NEWS 32	MAY 21	TOXCENTER enhanced with BIOSIS reload
NEWS 33	MAY 21	CA/CAplus enhanced with additional kind codes for German patents

NEWS EXPRESS NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

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FULL ESTIMATED COST                                         0.21       0.21

FILE 'MEDLINE' ENTERED AT 13:00:31 ON 21 MAY 2007

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=> s (ngal OR (neutrophil(3a)lipocalin) OR hnl OR 24p3 OR oncogene-24p3
)(10a)(kidney OR renal OR arf OR urine OR urinary)
L1          132 (NGAL OR (NEUTROPHIL(3A) LIPOCALIN) OR HNL OR 24P3 OR ONCOGENE-2
                4P3 )(10A)(KIDNEY OR RENAL OR ARF OR URINE OR URINARY)

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2            60 DUP REM L1 (72 DUPLICATES REMOVED)

=> d ibib ed abs l2 1-60

L2   ANSWER 1 OF 60  CAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2007:175469  CAPLUS
DOCUMENT NUMBER:          146:201591
TITLE:                    Detection of NGAL in chronic renal
                          disease
INVENTOR(S):              Barasch, Jonathan Matthew; Devarajan, Prasad;
                          Nickolas, Thomas L.; Mori, Kiyoshi
PATENT ASSIGNEE(S):       USA
SOURCE:                   U.S. Pat. Appl. Publ., 14pp., Cont.-in-part of U.S.
                          Ser. No. 96,113.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   2
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     --------------       ----   --------    --------------------    --------
     US 2007037232         A1    20070215    US 2005-374285          20051013
     US 2005272101         A1    20051208    US 2005-96113           20050331
     WO 2007044994         A2    20070419    WO 2006-US40720         20061013
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
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KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,
MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS,
RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM

WO 2007047458 A2 20070426 WO 2006-US40132 20061013
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,
MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS,
RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2005-96113 A2 20050331
US 2004-577662P P 20040607
US 2005-374285 A 20051013

ED Entered STN: 16 Feb 2007

AB Methods of assessing the ongoing kidney status in a subject afflicted with chronic renal failure (CRF) by detecting the quantity of Neutrophil Gelatinase-Associated Lipocalin (NGAL) in fluid samples over time is disclosed. NGAL is a small secreted polypeptide that is protease resistant and consequently readily detected in the urine and serum as a result of chronic renal tubule cell injury. Incremental increases in NGAL levels in CRF patients over a prolonged period of time are diagnostic of worsening kidney disease. This increase in NGAL precedes and correlates with other indicators of worsening CRF, such as increased serum creatinine, increased urine protein secretion, and lower glomerular filtration rate (GFR). Proper detection of worsening (or improving, if treatment has been instituted) renal status over time, confirmed by pre- and post-treatment NGAL levels in the patient, can aid the clin. practitioner in designing and/or maintaining a proper treatment regimen to slow or stop the progression of CRF.

L2 ANSWER 2 OF 60 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2007280146 IN-PROCESS
DOCUMENT NUMBER: PubMed ID: 17342180
TITLE: Neutrophil gelatinase-associated lipocalin as the real-time indicator of active kidney damage.
AUTHOR: Mori K; Nakao K
CORPORATE SOURCE: 1Department of Medicine and Clinical Science, Kyoto University Graduate School of Medicine; Kyoto, Japan.
SOURCE: Kidney international, (2007 May) Vol. 71, No. 10, pp. 967-70. Electronic Publication: 2007-03-07: Journal code: 0323470. ISSN: 0085-2538.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-DATA-REVIEW; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 15 May 2007
Last Updated on STN: 15 May 2007

ED Entered STN: 15 May 2007
Last Updated on STN: 15 May 2007

AB Neutrophil gelatinase-associated lipocalin (Ngal, 24p3, SIP24, lipocalin

2, or siderocalin) was originally purified from neutrophils, but with unknown function. Recently, it was identified that Ngal activates nephron formation in the embryonic kidney, is rapidly and massively induced in renal failure and possesses kidney-protective activity. We would like to propose that blood, urine, and kidney Ngal levels are the real-time indicators of active kidney damage, rather than one of many markers of functional nephron number (as Forest Fire Theory). Ngal is a novel iron-carrier protein exerting pleiotropic actions including the upregulation of epithelial marker E-cadherin expression, opening an exciting field in cell biology.Kidney International (2007) 71, 967-970. doi:10.1038/sj.ki.5002165; published online 7 March 2007.

L2 ANSWER 3 OF 60 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2007126926 IN-PROCESS
DOCUMENT NUMBER: PubMed ID: 17301189
TITLE: Role of protein C in renal dysfunction after polymicrobial sepsis.
AUTHOR: Gupta Akanksha; Berg David T; Gerlitz Bruce; Sharma Ganesh R; Syed Samreen; Richardson Mark A; Sandusky George; Heuer Josef G; Galbreath Elizabeth J; Grinnell Brian W
CORPORATE SOURCE: Biotechnology Discovery Research, Eli-Lilly Research Laboratories, Lilly Corporate Center, 355 East Merrill Street, DC# 0434, Lilly & Company, Indianapolis, Indiana 462225, USA.
SOURCE: Journal of the American Society of Nephrology : JASN, (2007 Mar) Vol. 18, No. 3, pp. 860-7. Electronic Publication: 2007-02-14.
Journal code: 9013836. ISSN: 1046-6673.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 1 Mar 2007
Last Updated on STN: 10 Apr 2007
ED Entered STN: 1 Mar 2007
Last Updated on STN: 10 Apr 2007
AB Protein C (PC) plays an important role in vascular function, and acquired deficiency during sepsis is associated with increased mortality in both animal models and in clinical studies. This study explored the consequences of PC suppression on the kidney in a cecal ligation and puncture model of polymicrobial sepsis. This study shows that a rapid drop in PC after sepsis is strongly associated with an increase in blood urea nitrogen, renal pathology, and expression of known markers of renal injury, including neutrophil gelatinase-associated lipocalin, CXCL1, and CXCL2. The endothelial PC receptor, which is required for the anti-inflammatory and antiapoptotic activity of activated PC (APC), was significantly increased after cecal ligation and puncture as well as in the microvasculature of human kidneys after injury. Treatment of septic animals with APC reduced blood urea nitrogen, renal pathology, and chemokine expression and dramatically reduced the induction of inducible nitric oxide synthase and caspase-3 activation in the kidney. The data demonstrate a clear link between acquired PC deficiency and renal dysfunction in sepsis and suggest a compensatory upregulation of the signaling receptor. Moreover, these data suggest that APC treatment may be effective in reducing inflammatory and apoptotic insult during sepsis-induced acute renal failure.

L2 ANSWER 4 OF 60 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2007053455 MEDLINE
DOCUMENT NUMBER: PubMed ID: 17229907
TITLE: Dual action of neutrophil gelatinase-associated lipocalin.
AUTHOR: Schmidt-Ott Kai M; Mori Kiyoshi; Li Jau Yi; Kalandadze Avtandil; Cohen David J; Devarajan Prasad; Barasch Jonathan

CORPORATE SOURCE: Department of Medicine, Columbia University College of Physicians and Surgeons, 630 West 168th Street, New York, NY 10032, USA.
CONTRACT NUMBER: DK-55388 (NIDDK)
DK-58872 (NIDDK)
SOURCE: Journal of the American Society of Nephrology : JASN, (2007 Feb) Vol. 18, No. 2, pp. 407-13. Electronic Publication: 2007-01-17. Ref: 40
Journal code: 9013836. ISSN: 1046-6673.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200704
ENTRY DATE: Entered STN: 30 Jan 2007
Last Updated on STN: 11 Apr 2007
Entered Medline: 10 Apr 2007
ED Entered STN: 30 Jan 2007
Last Updated on STN: 11 Apr 2007
Entered Medline: 10 Apr 2007
AB Neutrophil gelatinase-associated lipocalin (NGAL) is expressed and secreted by immune cells, hepatocytes, and renal tubular cells in various pathologic states. NGAL exerts bacteriostatic effects, which are explained by its ability to capture and deplete siderophores, small iron-binding molecules that are synthesized by certain bacteria as a means of iron acquisition. Consistently, NGAL deficiency in genetically modified mice leads to an increased growth of bacteria. However, growing evidence suggests effects of the protein beyond fighting microorganisms. NGAL acts as a growth and differentiation factor in multiple cell types, including developing and mature renal epithelia, and some of this activity is enhanced in the presence of siderophore:iron complexes. This has led to the hypothesis that eukaryotes might synthesize siderophore-like molecules that bind NGAL. Accordingly, NGAL-mediated iron shuttling between the extracellular and intracellular spaces may explain some of the biologic activities of the protein. Interest in NGAL has been sparked by the observation that NGAL is massively upregulated after renal tubular injury and may participate in limiting kidney damage. This review summarizes the current knowledge about the dual effects of NGAL as a siderophore:iron-binding protein and as a growth factor and examines the role of these effects in renal injury.

L2 ANSWER 5 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:29472 CAPLUS
TITLE: Neutrophil gelatinase-associated lipocalin (NGAL) correlations with cystatin C, serum creatinine and eGFR in patients with normal serum creatinine undergoing coronary angiography
AUTHOR(S): Bachorzewska-Gajewska, Hanna; Malyszko, Jolanta; Sitniewska, Ewa; Malyszko, Jacek S.; Dobrzycki, Slawomir
CORPORATE SOURCE: Department of Invasive Cardiology, Medical University, Bialystok, Pol.
SOURCE: Nephrology, Dialysis, Transplantation (2007), 22(1), 295-296
CODEN: NDTREA; ISSN: 0931-0509
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 10 Jan 2007
AB This study aims to investigate prospectively a novel marker of acute renal

injury in patients undergoing coronary angiog., as well as correlations between NGAL and other markers of kidney function: cystain C, eGFR and serum creatinine. Volume of contrast agent was not related to urinary and serum NGAL and cystatin C>. Serum creatinine correlated significantly with both serum and urinary NGAL. It is interesting that a rise in serum NGAL was observed as early as 2 h after coronary angiog. and lasted for 4 h. In urine, NGAL increased after 4 h and remained significantly elevated relative to baseline 8 h after the procedure. They found a rise in serum and urinary NGAL in samples taken as early as 2 h or at the first available sample after cardiopulmonary bypass in children who developed, as well as who never developed acute renal failure. Patients with ischemic heart disease often exhibit some degree of renal dysfunction due to concomitant diabetes, hypertension or congestive heart failure, despite normal serum creatinine. Studies have suggested that serum cystatin C may have advantages over serum creatinine for estimating GFR, however, with some limitations. This study confirmed that the increase of cystatin achieved a maximum at 24 h after the application of the contrast agent, and within 48 h, cystatin C decreased to the same level as before angiog.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 6 OF 60 MEDLINE on STN DUPLICATE 4

ACCESSION NUMBER: 2007239240 IN-PROCESS
DOCUMENT NUMBER: PubMed ID: 17360238
TITLE: Urinary neutrophil gelatinase-associated lipocalin (NGAL) is an early biomarker for renal tubulointerstitial injury in IgA nephropathy.
AUTHOR: Ding Hanlu; He Yani; Li Kailong; Yang Jurong; Li Xiaolin; Lu Rong; Gao Wenda
CORPORATE SOURCE: Department of Nephrology, Daping Hospital, The Third Military Medical University, Chongqing 40038, PR China.
SOURCE: Clinical immunology (Orlando, Fla.), (2007 May) Vol. 123, No. 2, pp. 227-34. Electronic Publication: 2007-03-13. Journal code: 100883537. ISSN: 1521-6616.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-DATA-REVIEW; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 24 Apr 2007
Last Updated on STN: 24 Apr 2007
ED Entered STN: 24 Apr 2007
Last Updated on STN: 24 Apr 2007

AB Renal tubulointerstitial injury plays an important role in the development of IgA nephropathy (IgAN), the most common form of glomerulonephritis. Few currently in use biomarkers can sensitively detect the earliest signs of renal tubular injury, hindering our efforts to launch preventive and therapeutic measures for this disorder in a timely manner. Neutrophil gelatinase-associated lipocalin (NGAL) is an acute phase protein that is rapidly released from not only neutrophils but also a variety of cell types upon inflammation and tissue injury. Its small molecular size and protease resistance could render it an excellent biomarker of renal injury in IgAN. In this study, we tested this hypothesis by measuring urinary levels of NGAL, creatinine and N-acetyl-beta-d-glucosaminidase (NAG) in 40 healthy individuals and 70 IgAN patients with various disease severities. The urinary NGAL levels and NGAL/creatinine values were significantly upregulated in Lee grade III IgAN patients, in correlation with progressive glomerular mesangial proliferation and tubulointerstitial injury. Compared with urinary NAG levels, the urinary NGAL levels elevated much more drastically and can be readily

detected even in Lee grade II IgAN patients when their NAG levels showed almost no change. Our findings suggest the promising use of urinary NGAL as an early biomarker for tubulointerstitial injury of IgA nephropathy and perhaps other types of renal disease in general.

L2 ANSWER 7 OF 60 MEDLINE on STN
ACCESSION NUMBER: 2007254559 IN-PROCESS
DOCUMENT NUMBER: PubMed ID: 17464130
TITLE: Diagnosis of acute kidney injury: from classic parameters to new biomarkers.
AUTHOR: Bonventre Joseph V
CORPORATE SOURCE: Renal Division, Brigham and Women's Hospital and Department of Medicine, Harvard Stem Cell Institute, Harvard Medical School and Harvard-Massachusetts Institute of Technology, Division of Health Sciences and Technology, Boston, Mass., USA.
SOURCE: Contributions to nephrology, (2007) Vol. 156, pp. 213-9. Journal code: 7513582. ISSN: 0302-5144.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-DATA-REVIEW; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 28 Apr 2007
Last Updated on STN: 28 Apr 2007
ED Entered STN: 28 Apr 2007
Last Updated on STN: 28 Apr 2007
AB A change in serum creatinine is the standard metric used to define and monitor the progression of acute kidney injury (AKI). This marker is inadequate for a number of reasons including the fact that changes in serum creatinine are delayed in time after kidney injury and hence creatinine is not a good indicator to use in order to target therapy in a timely fashion. There is an urgent need for early biomarkers for the diagnosis of AKI. There is also a need for biomarkers that will be predictive of outcome and which can be used to monitor therapy. There are a limited number of biomarkers that are being validated by a number of groups and from this list clinically useful reagents are likely to be derived over the next few years. In this article the status of 5 potential urinary biomarkers for AKI are discussed: kidney injury molecule-1, N-acetyl-Beta-D-glucosaminidase, neutrophil gelatinase-associated lipocalin, cystatin C, and interleukin-18. Considerable progress has been made although much continues to be needed to validate these markers for routine clinical use. Armed with these new tools the future will look much brighter for the patient with AKI as it is likely that early diagnosis and better predictors of outcome will lead to new therapies which can be introduced earlier in the course of disease.

L2 ANSWER 8 OF 60 MEDLINE on STN
ACCESSION NUMBER: 2007254558 IN-PROCESS
DOCUMENT NUMBER: PubMed ID: 17464129
TITLE: Emerging biomarkers of acute kidney injury.
AUTHOR: Devarajan Prasad
CORPORATE SOURCE: Nephrology and Hypertension, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA.
SOURCE: Contributions to nephrology, (2007) Vol. 156, pp. 203-12. Journal code: 7513582. ISSN: 0302-5144.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-DATA-REVIEW; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 28 Apr 2007

Last Updated on STN: 28 Apr 2007
ED Entered STN: 28 Apr 2007
Last Updated on STN: 28 Apr 2007
AB Background: Acute kidney injury (AKI) is a major clinical problem with a rising incidence and high mortality rate. The lack of early biomarkers has resulted in an unacceptable delay in initiating therapies. Methods: Here we will update the reader on promising new blood and urinary biomarkers that have recently emerged through the application of innovative technologies such as functional genomics and proteomics to human and animal models of AKI. Results: The most promising biomarkers of AKI for clinical use include a plasma panel (NGAL and cystatin C) and a urine panel (NGAL, Il-18 and KIM-1). Conclusions: As they represent tandem biomarkers, it is likely that the AKI panels will be useful for timing the initial insult and assessing the duration and severity of AKI. Based on the differential expression of the biomarkers, it is also likely that the AKI panels will distinguish between the various types and etiologies of AKI. It will be important in future studies to validate the sensitivity and specificity of these biomarker panels in clinical samples from large cohorts and from multiple clinical situations.

L2 ANSWER 9 OF 60 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN
ACCESSION NUMBER: 2007158881 EMBASE
TITLE: Is serum NGAL an accurate marker of renal function in pediatric CKD?.
SOURCE: Nature Clinical Practice Nephrology, (2007) Vol. 3, No. 4, pp. 180. .
Refs: 1
ISSN: 1745-8323 E-ISSN: 1745-8331
PUBLISHER IDENT.: NCPNEPH0416
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 028 Urology and Nephrology
029 Clinical Biochemistry
LANGUAGE: English
ENTRY DATE: Entered STN: 19 Apr 2007
Last Updated on STN: 19 Apr 2007
ED Entered STN: 19 Apr 2007
Last Updated on STN: 19 Apr 2007
DATA NOT AVAILABLE FOR THIS ACCESSION NUMBER

L2 ANSWER 10 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2007:312572 BIOSIS
DOCUMENT NUMBER: PREV200700312616
TITLE: NGAL as a marker for renal injury in sepsis.
AUTHOR(S): Bangert, Kristian [Reprint Author]; Heslet, Lars; Ghiglione, Margarita; Uttenthal, Otto
CORPORATE SOURCE: AntibodyShop AS, Gentofte 2820, Denmark
SOURCE: Inflammation Research, (MAR 2007) Vol. 56, No. Suppl. 2, pp. S104-S105.
Meeting Info.: 7th World Congress on Trauma, Shock, Inflammation and Sepsis. Munich, GERMANY. March 13 -17, 2007.
ISSN: 1023-3830.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 16 May 2007
Last Updated on STN: 16 May 2007
ED Entered STN: 16 May 2007
Last Updated on STN: 16 May 2007

L2 ANSWER 11 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:258184 CAPLUS
TITLE: Kidney-specific proteins: markers for detection of renal dysfunction after cardiac surgery?
AUTHOR(S): Wolf, M. W.; Boldt, J.
CORPORATE SOURCE: Department of Anesthesiology and Intensive Care Medicine, Klinikum der Stadt Ludwigshafen, Ludwigshafen, D-67063, Germany
SOURCE: Clinical Research in Cardiology Supplements (2007), 2(Suppl.), S103-S107
CODEN: CRCSC5; ISSN: 1861-0706
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 09 Mar 2007
AB After cardiopulmonary bypass, cardiac surgery patients often suffer from renal injury. Clinicians rely on urine output, serum creatinine, and creatinine clearance as routine measures to evaluate renal function. Kidney-specific proteins such as neutrophil gelatinase-associated lipocalin (NGAL), neutral endopeptidase (NEP), retinol-binding protein (RBP), alpha1-microglobulin, N-acetyl-beta-D-glucosaminidase or gluthatione-S-transferases (GSTs) have been studied to define new measures to detect even subclin. or transient compromised renal integrity after cardiac surgery. It has been shown that kidney-specific proteins may be a useful tool for detecting impaired renal function in this situation, and may be superior to conventional renal function tests. Large controlled trials, however, will be necessary to determine the predictive value of kidney-specific proteins.
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 12 OF 60 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 2007160438 MEDLINE
DOCUMENT NUMBER: PubMed ID: 17072653
TITLE: Serum neutrophil gelatinase-associated lipocalin as a marker of renal function in children with chronic kidney disease.
AUTHOR: Mitsnefes Mark M; Kathman Thelma S; Mishra Jaya; Kartal Janis; Khoury Philip R; Nickolas Thomas L; Barasch Jonathan; Devarajan Prasad
CORPORATE SOURCE: Divisions of Nephrology and Hypertension, Cincinnati Children's Hospital Medical Center, University of Cincinnati School of Medicine, MLC 7022, 3333 Burnet Avenue, Cincinnati, OH, 45229-3039, USA.
CONTRACT NUMBER: K12 HD28827 (NICHD)
K23 HL-69296 (NHLBI)
P50-DK52612 (NIDDK)
R01 DK-58872 (NIDDK)
R01-DK53289 (NIDDK)
R01-DK55388 (NIDDK)
R21-DK070163 (NIDDK)
SOURCE: Pediatric nephrology (Berlin, Germany), (2007 Jan) Vol. 22, No. 1, pp. 101-8. Electronic Publication: 2006-10-27.
Journal code: 8708728. ISSN: 0931-041X.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200704
ENTRY DATE: Entered STN: 17 Mar 2007

Last Updated on STN: 4 Apr 2007
Entered Medline: 3 Apr 2007

ED Entered STN: 17 Mar 2007
Last Updated on STN: 4 Apr 2007
Entered Medline: 3 Apr 2007

AB Very few biomarkers exist for monitoring chronic kidney disease (CKD). We have recently shown that serum neutrophil gelatinase-associated lipocalin (NGAL) represents a novel biomarker for early identification of acute kidney injury. In this study, we hypothesized that serum NGAL may also represent a biomarker for the quantitation of CKD. Forty-five children with CKD stages 2-4 were prospectively recruited for measurement of serum NGAL, serum cystatin C, glomerular filtration rate (GFR) by Ioversol clearance, and estimated GFR (eGFR) by Schwartz formula. Serum NGAL significantly correlated with cystatin C (r=0.74, P<0.000). Both NGAL and cystatin C significantly correlated with measured GFR (r=0.62, P<0.000; and r=0.71, P<0.000, respectively) as well as with eGFR (r=0.66, P<0.000 and r=0.59, P<0.000, respectively). At GFR levels of >or=30 ml/min per 1.73 m(2), serum NGAL, cystatin C, and eGFR were all significantly correlated with measured GFR. However, in subjects with lower GFRs (<30 ml/min per 1.73 m(2)), serum NGAL levels correlated best with measured GFR (r=0.62), followed by cystatin C (r=0.41). We conclude that (a) both serum NGAL and cystatin C may prove useful in the quantitation of CKD, and (b) by correlation analysis, NGAL outperforms cystatin C and eGFR at lower levels of measured GFR.

L2 ANSWER 13 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:627476 CAPLUS
DOCUMENT NUMBER: 145:81153
TITLE: Determination of neutrophil gelatinase-associated lipocalin (NGAL) as a diagnostic marker for renal disorders
INVENTOR(S): Uttenthal, Lars Otto; Juanes, Margarita Ghiglione; Bangert, Kristian
PATENT ASSIGNEE(S): Antibodyshop A/S, Den.
SOURCE: PCT Int. Appl., 42 pp., which
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006066587	A1	20060629	WO 2005-DK806	20051220

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2004-637503P P 20041220
US 2005-719307P P 20050921

ED Entered STN: 29 Jun 2006

AB Methods for diagnosing renal disorders by measuring human neutrophil gelatinase-associated lipocalin (NGAL) are provided.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 14 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:515876 CAPLUS
DOCUMENT NUMBER: 145:26562
TITLE: Muteins of human neutrophil gelatinase-associated lipocalin with affinity for cytotoxic T lymphocyte-associated antigen (CTLA-4) and their use for treatment of cancer, infectious, or (auto)immune diseases
INVENTOR(S): Matschiner, Gabriele; Hohlbaum, Andreas; Schlehuber, Steffen; Poehlchen, Martin; Skerra, Arne
PATENT ASSIGNEE(S): Pieris Proteolab A.-G., Germany
SOURCE: PCT Int. Appl., 160 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006056464	A2	20060601	WO 2005-EP12640	20051125
WO 2006056464	A3	20070118		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.:

US 2004-631200P	P	20041126
US 2004-631202P	P	20041126
US 2004-631227P	P	20041126
US 2004-631253P	P	20041126
US 2004-522970P	P	20041129
US 2005-679811P	P	20050511
US 2005-680067P	P	20050511

OTHER SOURCE(S): MARPAT 145:26562
ED Entered STN: 02 Jun 2006
AB The present invention relates to compds. with affinity for the cytotoxic T lymphocyte associated antigen (CTLA-4), wherein the compound exhibits a synergistic mode of action in that the the compound (a) increases T cell priming or T cell expansion or the generation of memory T cells by blocking of CTLA-4, and (b) enhances effector T cell activity in tumor tissue or lymphoid tissue by blocking of CTLA-4. The compound of the invention can be a protein, a small organic mol., a peptide, or a nucleic acid. The invention also relates to muteins derived from a protein selected from the group consisting of human neutrophil gelatinase-associated lipocalin (hNGAL), rat α2-microglobulin-related protein (A2m) and mouse 24p3/uterocalin (24p3). The muteins have binding specificity for CTLA-4, wherein said mutein: (a) comprises amino acid replacements at at least one of the sequence position corresponding to sequence positions 33-54, 66-83, 94-106, and 123-136 of hNGAL, and (b) binds human CTLA-4 with a KD of 50 nM or less. The serum half-life and pharmacokinetics of hNGAL muteins are improved by fusions with albumin-binding domains and/or by cysteine residue mutants. The invention also relates to a pharmaceutical composition comprising such a compound or mutein as well as to

various pharmaceutical uses of such a compound or mutein, for example, for the prevention and/or treatment of cancer, an auto-immune disease, or an infectious disease.

L2 ANSWER 15 OF 60 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 2006509788 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16868980
TITLE: Urinary neutrophil gelatinase-associated lipocalin as a biomarker of nephritis in childhood-onset systemic lupus erythematosus.
AUTHOR: Brunner Hermine I; Mueller Michelle; Rutherford Cynthia; Passo Murray H; Witte David; Grom Alexei; Mishra Jaya; Devarajan Prasad
CORPORATE SOURCE: Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio 45229-3039, USA.. hermine.brunner@cchmc.org
CONTRACT NUMBER: P50-DK-52612 (NIDDK)
P60-AR-47784 (NIAMS)
R01-DK-53289 (NIDDK)
R21-DK-070163 (NIDDK)
SOURCE: Arthritis and rheumatism, (2006 Aug) Vol. 54, No. 8, pp. 2577-84.
Journal code: 0370605. ISSN: 0004-3591.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200609
ENTRY DATE: Entered STN: 29 Aug 2006
Last Updated on STN: 20 Sep 2006
Entered Medline: 19 Sep 2006
ED Entered STN: 29 Aug 2006
Last Updated on STN: 20 Sep 2006
Entered Medline: 19 Sep 2006
AB OBJECTIVE: Renal involvement in systemic lupus erythematosus (SLE) is associated with poor prognosis. Currently available renal biomarkers are relatively insensitive and nonspecific for diagnosing SLE nephritis. Previous research suggests that neutrophil gelatinase-associated lipocalin (NGAL) is a high-quality renal biomarker of acute kidney injury, while its usefulness in SLE is unclear. We undertook this study to determine the relationship between urinary NGAL excretion and SLE disease activity or damage, with a focus on nephritis. METHODS: A cohort of 35 patients diagnosed as having SLE prior to age 16 years (childhood-onset SLE) was assessed for disease activity (using the Systemic Lupus Erythematosus Disease Activity Index 2000 update) and damage (using the Systemic Lupus International Collaborating Clinics/American College of Rheumatology SLE Damage Index) in a double-blind, cross-sectional study. Information on current markers of renal function and disease was obtained and compared with NGAL levels (ng/mg of urinary creatinine) measured by enzyme-linked immunosorbent assay. Eight children with juvenile idiopathic arthritis (JIA) served as controls. RESULTS: NGAL levels did not differ with the age, weight, height, sex, or race of the patients. Patients with childhood-onset SLE had significantly higher NGAL levels than did those with JIA ($P < 0.0001$). NGAL levels were strongly to moderately correlated with renal disease activity and renal damage (Spearman's $r >/= 0.47$, $P < 0.0001$ for both comparisons), but not with extrarenal disease activity or extrarenal damage. NGAL levels of >0.6 ng/mg urinary creatinine were 90% sensitive and 100% specific for identifying childhood-onset SLE patients with biopsy-proven nephritis. CONCLUSION: Urinary NGAL is a promising potential biomarker of childhood-onset SLE. nephritis. The results of the current study require validation in a

larger cohort to more accurately delineate urinary NGAL excretion in relation to the diverse SLE phenotypes.

L2 ANSWER 16 OF 60 MEDLINE on STN DUPLICATE 7
ACCESSION NUMBER: 2006407131 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16827865
TITLE: Urine NGAL and IL-18 are predictive biomarkers for delayed graft function following kidney transplantation.
AUTHOR: Parikh C R; Jani A; Mishra J; Ma Q; Kelly C; Barasch J; Edelstein C L; Devarajan P
CORPORATE SOURCE: Nephrology, Yale University, New Haven, Connecticut, USA.
CONTRACT NUMBER: K23-DK064689 (NIDDK)
P01-DK34039 (NIDDK)
P50-DK52612 (NIDDK)
R01-DK53289 (NIDDK)
R01-DK55388 (NIDDK)
R01-DK56851 (NIDDK)
R01-DK58872 (NIDDK)
R21-DK070163 (NIDDK)
SOURCE: American journal of transplantation : official journal of the American Society of Transplantation and the American Society of Transplant Surgeons, (2006 Jul) Vol. 6, No. 7, pp. 1639-45.
Journal code: 100968638. ISSN: 1600-6135.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200612
ENTRY DATE: Entered STN: 11 Jul 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 7 Dec 2006
ED Entered STN: 11 Jul 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 7 Dec 2006
AB Delayed graft function (DGF) due to tubule cell injury frequently complicates deceased donor kidney transplants. We tested whether urinary neutrophil gelatinase-associated lipocalin (NGAL) and interleukin-18 (IL-18) represent early biomarkers for DGF (defined as dialysis requirement within the first week after transplantation). Urine samples collected on day 0 from recipients of living donor kidneys (n = 23), deceased donor kidneys with prompt graft function (n = 20) and deceased donor kidneys with DGF (n = 10) were analyzed in a double blind fashion by ELISA for NGAL and IL-18. In patients with DGF, peak postoperative serum creatinine requiring dialysis typically occurred 2-4 days after transplant. Urine NGAL and IL-18 values were significantly different in the three groups on day 0, with maximally elevated levels noted in the DGF group ($p < 0.0001$). The receiver-operating characteristic curve for prediction of DGF based on urine NGAL or IL-18 at day 0 showed an area under the curve of 0.9 for both biomarkers. By multivariate analysis, both urine NGAL and IL-18 on day 0 predicted the trend in serum creatinine in the posttransplant period after adjusting for effects of age, gender, race, urine output and cold ischemia time ($p < 0.01$). Our results indicate that urine NGAL and IL-18 represent early, predictive biomarkers of DGF.

L2 ANSWER 17 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2006:339013 BIOSIS
DOCUMENT NUMBER: PREV200600337572

TITLE: Testosterone supplements exacerbate renal injury in hypertensive rats with reduced renal mass.
AUTHOR(S): Iliescu, Radu [Reprint Author]; Yanes, Licy L.; Vera, Trinity; Sartori-Valinotti, Julio C.; Williams, Jason; Stec, David E.; Reckelhoff, Jane F.
CORPORATE SOURCE: Univ Mississippi, Med Ctr, Dept Physiol and Biophys, Jackson, MS 39216 USA
SOURCE: FASEB Journal, (MAR 7 2006) Vol. 20, No. 5, Part 2, pp. A1192.
Meeting Info.: Experimental Biology 2006 Meeting. San Francisco, CA, USA. April 01 -05, 2006. Amer Assoc Anatomists; Amer Physiol Soc; Amer Soc Biochem & Mol Biol; Amer Soc Investigat Pathol; Amer Soc Nutr; Amer Soc Pharmacol & Expt Therapeut.
CODEN: FAJOEC. ISSN: 0892-6638.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 5 Jul 2006
Last Updated on STN: 5 Jul 2006
ED Entered STN: 5 Jul 2006
Last Updated on STN: 5 Jul 2006
AB Men with end-stage renal disease are frequently given androgen supplements to improve sexual function. We have previously shown that endogenous androgens contribute to hypertension and renal injury in various animal models. We hypothesized that testosterone supplements exacerbate hypertension and renal injury in rats with reduced renal mass (RRM). Sprague Dawley rats were subjected to surgical ablation of 80% of the renal mass or left intact. The rats were then given 8% NaCl diet for 6 weeks. Testosterone was administered in Silastic pellets throughout the study to groups of rats with intact or ablated kidneys. Arterial pressure was continuously monitored by telemetry. Renal injury was assessed by measurements of urinary protein and neutrophil gelatinase-associated lipocalin (NGAL) excretion. RRM developed hypertension on the high salt diet as compared with intact rats (154 +/- 12 vs 111 +/- 3mmHg). Testosterone supplementation did not alter the course of hypertension in RRM, nor increased blood pressure in intact rats (156 +/- 12 vs 113 +/- 8mmHg, RRM vs intact). Starting at week 2 until the end of the study, testosterone-supplemented RRM consistently excreted 20 to 30% more protein than untreated RRM. Urinary levels of NGAL, an index of tubulointerstitial injury, were also higher in RRM as compared to intact rats and were further augmented by testosterone supplements. Our data indicate that testosterone supplements worsen renal injury in a model of chronic hypertensive renal disease without affecting blood pressure.

L2 ANSWER 18 OF 60 MEDLINE on STN DUPLICATE 8
ACCESSION NUMBER: 2006478675 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16773412
TITLE: Urinary neutrophil gelatinase-associated lipocalcin in D+HUS: a novel marker of renal injury.
AUTHOR: Trachtman Howard; Christen Erica; Cnaan Avital; Patrick Jilma; Mai Volker; Mishra Jaya; Jain Aditya; Bullington Nathan; Devarajan Prasad
CORPORATE SOURCE: Department of Pediatrics (Division of Nephrology), Schneider Children's Hospital of the North Shore-Long Island Jewish Medical Center, New Hyde Park, New York, NY, USA. (Investigators of the HUS-SYNSORB Pk Multicenter Clinical Trial). trachtma@lij.edu
CONTRACT NUMBER: DK52147 (NIDDK)
P50-DK52612 (NIDDK)
R01-DK53289 (NIDDK)
R21-DK070163 (NIDDK)
SOURCE: Pediatric nephrology (Berlin, Germany), (2006 Jul) Vol. 21,

No. 7, pp. 989-94. Electronic Publication: 2006-06-01.
Journal code: 8708728. ISSN: 0931-041X.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(MULTICENTER STUDY)
(RANDOMIZED CONTROLLED TRIAL)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(CLINICAL TRIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200611
ENTRY DATE: Entered STN: 15 Aug 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 30 Nov 2006
ED Entered STN: 15 Aug 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 30 Nov 2006
AB BACKGROUND: Diarrhea-associated hemolytic uremic syndrome (D+HUS) causes acute renal failure. Neutrophil gelatinase-associated lipocalcin (NGAL) is an early indicator of kidney injury.
OBJECTIVE: To determine if urinary NGAL excretion is a biomarker of severe renal injury and predicts the need for dialysis in D+HUS. METHODS: Patients were randomly selected from among participants in the SYNSORB Pk trial. Urine samples were collected daily if available during the first week of hospitalization. NGAL levels were determined by ELISA. RESULTS: 34 children, age 5.9+/-3.9 yr, were studied; ten (29%) required dialysis. Patients were categorized based on urinary NGAL concentration within five days of hospitalization - <200 ng/ml and >or=200 ng/ml. Twenty patients (58%) had increased urinary NGAL excretion. The severity of D+HUS at enrollment was similar in the two groups. However, children with increased urinary NGAL levels had higher peak BUN and creatinine concentrations (P<0.01) and required dialysis more often, 9/20 versus 1/14 (P=0.024) compared to children with normal excretion.
CONCLUSION: The majority of patients with D+HUS have renal tubular epithelial injury, as evidenced by elevated urinary NGAL excretion. Urinary NGAL levels below 200 ng/ml within five days of hospitalization may be an adjunctive marker that defines less severe renal involvement.

L2 ANSWER 19 OF 60 MEDLINE on STN DUPLICATE 9
ACCESSION NUMBER: 2006388636 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16528543
TITLE: Kidney NGAL is a novel early marker of acute injury following transplantation.
AUTHOR: Mishra Jaya; Ma Qing; Kelly Caitlin; Mitsnefes Mark; Mori Kiyoshi; Barasch Jonathan; Devarajan Prasad
CORPORATE SOURCE: Nephrology and Hypertension, Cincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine, Cincinnati, OH, USA.
CONTRACT NUMBER: DK-58872 (NIDDK)
P50-DK52612 (NIDDK)
R01-DK53289 (NIDDK)
R01-DK55388 (NIDDK)
R21-DK070163 (NIDDK)
SOURCE: Pediatric nephrology (Berlin, Germany), (2006 Jun) Vol. 21, No. 6, pp. 856-63. Electronic Publication: 2006-04-14.
Journal code: 8708728. ISSN: 0931-041X.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English

FILE SEGMENT: Priority Journals
ENTRY MONTH: 200611
ENTRY DATE: Entered STN: 30 Jun 2006
Last Updated on STN: 15 Nov 2006
Entered Medline: 14 Nov 2006

ED Entered STN: 30 Jun 2006
Last Updated on STN: 15 Nov 2006
Entered Medline: 14 Nov 2006

AB Acute kidney injury secondary to ischemia-reperfusion in renal allografts often results in delayed graft function. We tested the hypothesis that expression of neutrophil gelatinase-associated lipocalin (NGAL) is an early marker of acute kidney injury following transplantation. Sections from paraffin-embedded protocol biopsy specimens obtained at approximately one hour of reperfusion after transplantation of 13 cadaveric (CAD) and 12 living-related (LRD) renal allografts were examined by immunohistochemistry for expression of NGAL. The staining intensity was correlated with cold ischemia time, peak post-operative serum creatinine, and dialysis requirement. There were no differences between the LRD and CAD groups in age, gender or preoperative serum creatinine. Using a scoring system of 0 (no staining) to 3 (most intense staining), NGAL expression was significantly increased in CAD specimens (2.3+/-0.8 versus 0.8+/-0.7 in LRD, $p<0.001$). There was a strong correlation between NGAL staining intensity and cold ischemia time ($R=0.87$, $p<0.001$). Importantly, NGAL staining in these early CAD biopsies was strongly correlated with peak postoperative serum creatinine, which occurred days later ($R=0.86$, $p<0.001$). Four patients developed delayed graft function requiring dialysis during the first week posttransplantation; all of these patients displayed the most intense NGAL staining in their first protocol biopsies. We conclude that NGAL staining intensity in early protocol biopsies represents a novel predictive biomarker of acute kidney injury following transplantation.

L2 ANSWER 20 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

ACCESSION NUMBER: 2007:124532 BIOSIS
DOCUMENT NUMBER: PREV200700123751
TITLE: NGAL is an early predictive biomarker of acute kidney injury following cardiac catheterization with contrast administration in children.
AUTHOR(S): Hirsch, Russel [Reprint Author]; Dent, Catherine; Pfriem, Holly; Allen, Janene; Mishra, Jaya; Ma, Qing; Kelly, Charles; Beekman, Robert; Mitsnefes, Mark; Devarajan, Prasad
CORPORATE SOURCE: Childrens Hosp, Med Ctr, Cincinnati, OH 45229 USA
SOURCE: Circulation, (OCT 31 2006) Vol. 114, No. 18, Suppl. S, pp. 695.
Meeting Info.: 79th Annual Scientific Session of the American-Heart-Association. Chicago, IL, USA. November 12 -15, 2006. Amer Heart Assoc.
CODEN: CIRCAZ. ISSN: 0009-7322.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 22 Feb 2007
Last Updated on STN: 22 Feb 2007

ED Entered STN: 22 Feb 2007
Last Updated on STN: 22 Feb 2007

AB Introduction: Acute kidney injury (AKI) occurs in about 10% of pts who receive contrast agents. However, diagnosis using serum creatinine may be delayed several days. We hypothesized that neutrophil gelatinase-associated lipocalin (NGAL), produced in tubule cells in response to injury, is a predictive biomarker of AKI after contrast administration. Methods: We prospectively enrolled 91 children (mean age

84mo, range 0-216) with congenital heart disease who were undergoing elective cardiac catheterization with contrast administration (CC). Serial urine and serum samples, obtained at baseline and at multiple time points after CC were analyzed in a double blind fashion by ELISA for NGAL expression. AKI, defined as a 50% increase in serum creatinine from baseline, was the primary end-point. Results: AKI was found in 11 pts (12%), but diagnosis using serum creatinine was only possible 12-24 hours after CC. In contrast, significant elevation of urine and serum concentration of NGAL was noted early after CC in those 11 pts. Urine and serum concentration of NGAL did not vary from baseline in the remaining pts without AKI (Table). With a cut-off value of 100ng/ml, the 6 hour urine NGAL revealed the highest sensitivity and specificity (85% and 98% respectively) in predicting AKI. The biomarker properties were comparably excellent for both the 2 and 6 hour serum NGAL measurements (82% sensitivity; 100% specificity). By multivariate analysis, NGAL concentrations in the urine (R-2=0.52, p<0.0001) and serum (R-2 =0.4, p<0.0001) at the 2 hour time point were found to be powerful independent predictors of AKI. Pt demographics and contrast volume were not predictive of AKI. Conclusion: Elevation of NGAL concentration in urine and serum are early predictors of AKI following cardiac catheterization and contrast administration. Using this biomarker of renal dysfunction, earlier therapeutic intervention may be possible, particularly in those pts at higher risk for renal insufficiency.[GRAPHICS]rate for the developmental delay in infants with CHD. Longitudinal follow-up study in a larger population is needed to elucidate the significance of chronic hypoxia on impaired neuroanatomical development.

L2 ANSWER 21 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

ACCESSION NUMBER: 2006:278903 BIOSIS
DOCUMENT NUMBER: PREV200600275924
TITLE: Neutrophil gelatinase-associated lipocalin in acute renal failure.
AUTHOR(S): de Broe, Marc
SOURCE: Kidney International, (FEB 2006) Vol. 69, No. 4, pp. 648. CODEN: KDYIA5. ISSN: 0085-2538.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 17 May 2006
Last Updated on STN: 17 May 2006
ED Entered STN: 17 May 2006
Last Updated on STN: 17 May 2006

L2 ANSWER 22 OF 60 MEDLINE on STN DUPLICATE 10

ACCESSION NUMBER: 2006546976 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16931980
TITLE: Association between increases in urinary neutrophil gelatinase-associated lipocalin and acute renal dysfunction after adult cardiac surgery.
AUTHOR: Wagener Gebhard; Jan Michael; Kim Mihwa; Mori Kiyoshi; Barasch Jonathan M; Sladen Robert N; Lee H Thomas
CORPORATE SOURCE: Department of Anesthesiology, Columbia University, NY 10032-3784, USA.
SOURCE: Anesthesiology, (2006 Sep) Vol. 105, No. 3, pp. 485-91. Journal code: 1300217. ISSN: 0003-3022.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200609
ENTRY DATE: Entered STN: 16 Sep 2006

Last Updated on STN: 30 Sep 2006
Entered Medline: 29 Sep 2006

ED Entered STN: 16 Sep 2006
Last Updated on STN: 30 Sep 2006
Entered Medline: 29 Sep 2006

AB BACKGROUND: Acute renal dysfunction (ARD) and subsequent acute renal failure after cardiac surgery are associated with high mortality and morbidity. Early therapeutic or preventive intervention is hampered by the lack of an early biomarker for acute renal injury. Recent studies showed that urinary neutrophil gelatinase-associated lipocalin (NGAL or lipocalin 2) is up-regulated early (within 1-3 h) after murine renal injury and in pediatric ARD after cardiac surgery. The authors hypothesized that postoperative urinary NGAL concentrations are increased in adult patients developing ARD after cardiac surgery compared with patients without ARD. METHODS: After institutional review board approval, 81 cardiac surgical patients were prospectively studied. Urine samples were collected immediately before incision and at various time intervals after surgery for NGAL analysis by quantitative immunoblotting. ARD was defined as peak postoperative serum creatinine increase by 50% or greater compared with preoperative serum creatinine. RESULTS: Sixteen of 81 patients (20%) developed postoperative ARD, and the mean urinary NGAL concentrations in patients who developed ARD were significantly higher early after surgery (after 1 h: 4,195 +/- 6,520 [mean +/- SD] vs. 1,068 +/- 2,129 ng/ml; P < 0.01) compared with patients who did not develop ARD. Mean urinary NGAL concentrations continued to increase and remained significantly higher at 3 and 18 h after cardiac surgery in patients with ARD. In contrast, urinary NGAL in patients without ARD decreased rapidly after cardiac surgery. CONCLUSIONS: Patients developing postoperative ARD had significantly higher urinary NGAL concentrations early after cardiac surgery. Urinary NGAL may therefore be a useful early biomarker of ARD after cardiac surgery. These findings may facilitate the early detection of acute renal injury and potentially prevent progression to acute renal failure.

L2 ANSWER 23 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

ACCESSION NUMBER: 2007:196059 BIOSIS
DOCUMENT NUMBER: PREV200700202308
TITLE: A preliminary evaluation of a novel biomarker of renal function, neutrophil gelatinase-associated lipocalin (NGAL), in patients with liver disease.
AUTHOR(S): Portal, Andrew J. [Reprint Author]; Austin, Mark; Bruce, Matthew J.; Wendon, Julia; Heneghan, Michael
CORPORATE SOURCE: Univ London Kings Coll Hosp, Inst Liver Studies, London SE5 8RX, UK
SOURCE: Hepatology, (OCT 2006) Vol. 44, No. 4, Suppl. 1, pp. 451A. Meeting Info.: 57th Annual Meeting of the American-Association-for-the-Study-of-Liver-Diseases. Boston, MA, USA. October 27 -31, 2006. Amer Assoc Study Liver Dis.
CODEN: HPTLD9. ISSN: 0270-9139.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 21 Mar 2007
Last Updated on STN: 21 Mar 2007

ED Entered STN: 21 Mar 2007
Last Updated on STN: 21 Mar 2007

L2 ANSWER 24 OF 60 MEDLINE on STN DUPLICATE 11
ACCESSION NUMBER: 2006442313 MEDLINE

DOCUMENT NUMBER: PubMed ID: 16775460
TITLE: Neutrophil gelatinase-associated lipocalin-mediated iron traffic in kidney epithelia.
AUTHOR: Schmidt-Ott Kai M; Mori Kiyoshi; Kalandadze Avtandil; Li Jau-Yi; Paragas Neal; Nicholas Thomas; Devarajan Prasad; Barasch Jonathan
CORPORATE SOURCE: Department of Medicine, Columbia University College of Physicians and Surgeons, New York, NY 10032, USA.
CONTRACT NUMBER: DK-55388 (NIDDK)
DK-58872 (NIDDK)
SOURCE: Current opinion in nephrology and hypertension, (2006 Jul) Vol. 15, No. 4, pp. 442-9. Ref: 75
Journal code: 9303753. ISSN: 1062-4821.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200611
ENTRY DATE: Entered STN: 27 Jul 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 28 Nov 2006
ED Entered STN: 27 Jul 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 28 Nov 2006
AB PURPOSE OF REVIEW: Neutrophil gelatinase-associated lipocalin (NGAL) is a member of the lipocalin superfamily of carrier proteins. NGAL is the first known mammalian protein which specifically binds organic molecules called siderophores, which are high-affinity iron chelators. Here, we review the expression, siderophore-dependent biological activities and clinical significance of NGAL in epithelial development and in kidney disease. RECENT FINDINGS: NGAL expression is rapidly induced in the nephron in response to renal epithelial injury. This has led to the establishment of NGAL assays that detect renal damage in the human. Additionally, only when complexed with siderophore and iron as a trimer, NGAL induces mesenchymal-epithelial transition (or nephron formation) in embryonic kidney in vitro and protects adult kidney from ischemia-reperfusion injury in vivo. While the structure of the NGAL: siderophore: iron complex has thus far only been solved for bacterially synthesized siderophores, new evidence suggests the presence of mammalian siderophore-like molecules. SUMMARY: NGAL is rapidly and massively induced in renal epithelial injury and NGAL: siderophore: iron complexes may comprise a physiological renoprotective mechanism. The data have implications for the diagnosis and treatment of acute renal injury.

L2 ANSWER 25 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2006:367733 BIOSIS
DOCUMENT NUMBER: PREV200600370149
TITLE: Neutrophil gelatinase-associated lipocalin and interleukin-18: Early, sequential, predictive biomarkers of acute kidney injury after cardiac surgery.
AUTHOR(S): Parikh, C. [Reprint Author]; Mishra, J.; Ma, Q.; Kelly, C.; Dent, C.; Devarajan, P.; Edelstein, C.
CORPORATE SOURCE: Yale Univ, New Haven, CT USA
SOURCE: Journal of Investigative Medicine, (MAR 2006) Vol. 54, No. 2, pp. S382,S381.
Meeting Info.: Combined Annual Meeting of the

Central-Society-for-Clinical-Research/Midwestern Section of the American-Federation-for-Medical-Research. Chicago, IL, USA. 20060428,. Central Soc Clin Res; Amer Federat Med Res, Midwestern Sec.
ISSN: 1081-5589.

DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 26 Jul 2006
Last Updated on STN: 26 Jul 2006
ED Entered STN: 26 Jul 2006
Last Updated on STN: 26 Jul 2006

L2 ANSWER 26 OF 60 MEDLINE on STN DUPLICATE 12
ACCESSION NUMBER: 2006342380 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16755774
TITLE: [NGAL--neutrophil gelatinase associated lipocalin in biochemistry, physiology and clinical praxis]. NGAL-neutrofilni, s gelatinazou asociovany lipokalin v biochemii, fyziologii a klinicke praxi.
AUTHOR: Kalousek I; Roselova P; Otevrelova P
CORPORATE SOURCE: Ustav hematologie a krevni transfuze, Praha.. ivan.kalousek@uhkt.cz
SOURCE: Casopis lekar u c eskych, (2006) Vol. 145, No. 5, pp. 373-6. Ref: 40
Journal code: 0004743. ISSN: 0008-7335.
PUB. COUNTRY: Czech Republic
DOCUMENT TYPE: (ENGLISH ABSTRACT)
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: Czech
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200607
ENTRY DATE: Entered STN: 8 Jun 2006
Last Updated on STN: 27 Jul 2006
Entered Medline: 26 Jul 2006
ED Entered STN: 8 Jun 2006
Last Updated on STN: 27 Jul 2006
Entered Medline: 26 Jul 2006

AB Neutrophil gelatinase associated lipocalin belongs to a family of small proteins, lipocalins, engaged in the transmembrane transportation of lipophylic substances. Originally isolated from specific granules of neutrophils, it was later located in bone marrow cells as well as lung, bronchial and colon epithelial cells. The expression of neutrophil lipocalin in epithelial cells and in body fluids considerably augments during the occurrence of inflammations and some cancers. A modulation of immunity response was thus suggested to be the main function of neutrophil lipocalin as well as the bacteriostatic effect originating from competition between neutrophil lipocalin and bacteria for siderophoric iron. Forming protective complexes with gelatinase B, the neutrophil lipocalin is implicated in regulatory processes of physiological and pathological rebuilding of tissues, mainly in the angiogenesis. The determination of neutrophil lipocalin levels in body fluids able to discriminate between bacterial and viral infections provides a powerful diagnostic tool. The examination of neutrophil lipocalin in the sera and urine of patients at risk of renal failure offers a very early marker of this acute state. Neutrophil lipocalin represents a sensitive non-invasive marker of renal ischemia and in patients with cystic fibrosis the marker of acute pulmonary exacerbation. Discussions have been conducted regarding the role of neutrophil lipocalin as an early marker of pancreatic cancer or of neutrophilic activation in severe cases of bowel diseases.

L2 ANSWER 27 OF 60 MEDLINE on STN DUPLICATE 13
ACCESSION NUMBER: 2006307458 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16735819
TITLE: Perioperative acute renal failure.
AUTHOR: Mahon Padraig; Shorten George
CORPORATE SOURCE: Department of Anaesthesia, Cork University Hospital, Wilton, Cork, Ireland.. rsimahon@hotmail.com
SOURCE: Current opinion in anaesthesiology, (2006 Jun) Vol. 19, No. 3, pp. 332-8. Ref: 73
Journal code: 8813436. ISSN: 0952-7907.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200609
ENTRY DATE: Entered STN: 1 Jun 2006
Last Updated on STN: 13 Sep 2006
Entered Medline: 12 Sep 2006
ED Entered STN: 1 Jun 2006
Last Updated on STN: 13 Sep 2006
Entered Medline: 12 Sep 2006
AB PURPOSE OF REVIEW: Recent biochemical evidence increasingly implicates inflammatory mechanisms as precipitants of acute renal failure. In this review, we detail some of these pathways together with potential new therapeutic targets. RECENT FINDINGS: Neutrophil gelatinase-associated lipocalin appears to be a sensitive, specific and reliable biomarker of renal injury, which may be predictive of renal outcome in the perioperative setting. For estimation of glomerular filtration rate, cystatin C is superior to creatinine. No drug is definitively effective at preventing postoperative renal failure. Clinical trials of fenoldopam and atrial natriuretic peptide are, at best, equivocal. As with pharmacological preconditioning of the heart, volatile anaesthetic agents appear to offer a protective effect to the subsequently ischaemic kidney. SUMMARY: Although a greatly improved understanding of the pathophysiology of acute renal failure has offered even more therapeutic targets, the maintenance of intravascular euvolaemia and perfusion pressure is most effective at preventing new postoperative acute renal failure. In the future, strategies targeting renal regeneration after injury will use bone marrow-derived stem cells and growth factors such as insulin-like growth factor-1.

L2 ANSWER 28 OF 60 MEDLINE on STN DUPLICATE 14
ACCESSION NUMBER: 2006426435 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16772710
TITLE: Neutrophil-gelatinase-associated lipocalin and renal function after percutaneous coronary interventions.
AUTHOR: Bachorzewska-Gajewska H; Malyszko J; Sitniewska E; Malyszko J S; Dobrzycki S
CORPORATE SOURCE: Department of Invasive Cardiology, Medical University, Bialystok, Poland.
SOURCE: American journal of nephrology, (2006) Vol. 26, No. 3, pp. 287-92. Electronic Publication: 2006-06-13.
Journal code: 8109361. ISSN: 0250-8095.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200611
ENTRY DATE: Entered STN: 20 Jul 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 28 Nov 2006

ED Entered STN: 20 Jul 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 28 Nov 2006

AB BACKGROUND/AIMS: The value of neutrophil-gelatinase-associated lipocalin (NGAL), a novel biomarker in the detection of acute renal failure in children after cardiac surgery, has been highlighted in previous studies. The incidence of percutaneous coronary intervention (PCI) increases, which may possibly result in increased incidences of contrast nephropathy, its potentially serious complication. Therefore, the aim of our study was to assess prospectively NGAL in patients undergoing elective PCI in relation to serum creatinine. METHODS: NGAL was assessed in the serum and urine using commercially available kits. RESULTS: We measured urinary and serum NGAL before, and 2, 4, 12, 24 and 48 h after PCI. We found a significant rise in serum NGAL 2 and 4 h after PCI, and a rise in urinary NGAL 4 and 12 h after PCI. Before PCI, serum NGAL was significantly associated with serum creatinine, urea, urinary NGAL, hemoglobin, hematocrit, albumin, age and presence of diabetes. In multivariate analysis, serum creatinine was the only predictor of serum NGAL. Serum NGAL 2 h after PCI correlated with serum creatinine, duration of PCI, HbA1c, hematocrit, hemoglobin and urinary NGAL. In multivariate analysis, the only predictors of serum NGAL 2 h after PCI were serum creatinine, time of PCI and HbA1c. Serum NGAL before PCI was significantly higher in diabetics than in non-diabetics. CONCLUSIONS: NGAL may represent a sensitive early biomarker of renal impairment after PCI. Serum creatinine, duration of PCI, but not type and amount of contrast agent, and appropriate treatment of diabetes, reflected by HbA1c, predict a rise in serum NGAL and kidney function following PCI.

L2 ANSWER 29 OF 60 MEDLINE on STN DUPLICATE 15
ACCESSION NUMBER: 2006488718 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16912649
TITLE: Biomarkers of acute renal injury and renal failure.
AUTHOR: Trof Ronald J; Di Maggio Francesco; Leemreis Jan; Groeneveld A B Johan
CORPORATE SOURCE: Department of Intensive Care, Vrije Universiteit Medical Center, Amsterdam, The Netherlands.
SOURCE: Shock (Augusta, Ga.), (2006 Sep) Vol. 26, No. 3, pp. 245-53. Ref: 81
Journal code: 9421564. ISSN: 1073-2322.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200610
ENTRY DATE: Entered STN: 17 Aug 2006
Last Updated on STN: 11 Oct 2006
Entered Medline: 10 Oct 2006

ED Entered STN: 17 Aug 2006
Last Updated on STN: 11 Oct 2006
Entered Medline: 10 Oct 2006

AB Acute renal failure (ARF) is a frequent problem in the intensive care unit and is associated with a high mortality. Early recognition could help clinical management, but current indices lack sufficient predictive value for ARF. Therefore, there might be a need for biomarkers in detecting renal tubular injury and/or dysfunction at an early stage before a decline in glomerular filtration rate is noted by an increased serum creatinine. A MEDLINE/PubMed search was performed, including all articles about biomarkers for ARF. All publication types, human and animal studies, or subsets were searched in English language. An extraction of relevant

articles was made for the purpose of this narrative review. These biomarkers include tubular enzymes (alpha- and pi-glutathione S-transferase, N-acetyl-glucosaminidase, alkaline phosphatase, gamma-glutamyl transpeptidase, Ala-(Leu-Gly)-aminopeptidase, and fructose-1,6-biphosphatase), low-molecular weight urinary proteins (alpha1- and beta2-microglobulin, retinol-binding protein, adenosine deaminase-binding protein, and cystatin C), Na+/H+ exchanger, neutrophil gelatinase-associated lipocalin, cysteine-rich protein 61, kidney injury molecule 1, urinary interleukins/adhesion molecules, and markers of glomerular filtration such as proatrial natriuretic peptide (1-98) and cystatin C. These biomarkers, detected in urine or serum shortly after tubular injury, have been suggested to contribute to prediction of ARF and need for renal replacement therapy. However, excretion of these biomarkers may also increase after reversible and mild dysfunction and may not necessarily be associated with persistent or irreversible damage. Large prospective studies in human are needed to demonstrate an improved outcome of biomarker-driven management of the patient at risk for ARF.

L2 ANSWER 30 OF 60 MEDLINE on STN DUPLICATE 16
ACCESSION NUMBER: 2006392321 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16710348
TITLE: Urinary IL-18 is an early predictive biomarker of acute kidney injury after cardiac surgery.
AUTHOR: Parikh C R; Mishra J; Thiessen-Philbrook H; Dursun B; Ma Q; Kelly C; Dent C; Devarajan P; Edelstein C L
CORPORATE SOURCE: Section of Nephrology, Yale University, New Haven, Connecticut 06516, USA.. chirag.parikh@yale.edu
CONTRACT NUMBER: K23-DK064689 (NIDDK)
P01-DK34039 (NIDDK)
P50-DK52612 (NIDDK)
R01-DK53289 (NIDDK)
R01-DK56851 (NIDDK)
R21-DK070163 (NIDDK)
SOURCE: Kidney international, (2006 Jul) Vol. 70, No. 1, pp. 199-203. Electronic Publication: 2006-05-17.
Journal code: 0323470. ISSN: 0085-2538.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200608
ENTRY DATE: Entered STN: 1 Jul 2006
Last Updated on STN: 24 Aug 2006
Entered Medline: 23 Aug 2006
ED Entered STN: 1 Jul 2006
Last Updated on STN: 24 Aug 2006
Entered Medline: 23 Aug 2006
AB Acute kidney injury (AKI) is a frequent complication of cardiopulmonary bypass (CPB). The lack of early biomarkers for AKI has impaired our ability to intervene in a timely manner. Urinary neutrophil gelatinase-associated lipocalin (NGAL) is recently demonstrated as an early biomarker of AKI after CPB, increasing 25-fold within 2 h and declining 6 h after surgery. In the present study, we tested whether interleukin-18 (IL-18) is a predictive biomarker for AKI in the same group of patients following CPB. Exclusion criteria included pre-existing renal insufficiency and nephrotoxin use. Serial urine samples were analyzed by enzyme-linked immunosorbent assay for IL-18 in 20 patients who developed AKI (defined as a 50% or greater increase in serum creatinine after CPB) and 35 controls (age, race, and gender-matched patients who did not develop AKI after CPB). Using serum creatinine, AKI was detected only 48-72 h after CPB. In contrast, urine

IL-18 increased at 4-6 h after CPB, peaked at over 25-fold at 12 h, and remained markedly elevated up to 48 h after CPB. The performance of IL-18 as demonstrated by area under the receiver operating characteristics curve for diagnosis of AKI at 4, 12, and 24 h after CPB was 61, 75, and 73% respectively. Also, on multivariate analysis, both IL-18 and NGAL were independently associated with number of days in AKI among cases. Our results indicate that IL-18 is an early, predictive biomarker of AKI after CPB, and that NGAL and IL-18 are increased in tandem after CPB. The combination of these two biomarkers may allow for the reliable early diagnosis and prognosis of AKI at all times after CPB, much before the rise in serum creatinine.

L2 ANSWER 31 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2006:671625 BIOSIS
DOCUMENT NUMBER: PREV200600680071
TITLE: Could NGAL (neutrophil gelatinase-associated lipocalin) predict renal function after percutaneous coronary interventions-PCI.
AUTHOR(S): Malyszko, Jolanta [Reprint Author]; Bachorzewska-Gajewska, Hanna; Malyszko, Jacek; Pawlak, Krystyna; Mysliwiec, Michal; Dobrzycki, Slawomir
CORPORATE SOURCE: Med Univ, Bialystok, Poland
SOURCE: Nephrology Dialysis Transplantation, (JUL 2006) Vol. 21, No. Suppl. 4, pp. 106.
Meeting Info.: 43rd ERA-EDTA Congress. Glasgow, UK. July 15 -18, 2006. ERA; EDTA.
ISSN: 0931-0509.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 6 Dec 2006
Last Updated on STN: 6 Dec 2006
ED Entered STN: 6 Dec 2006
Last Updated on STN: 6 Dec 2006

L2 ANSWER 32 OF 60 MEDLINE on STN
ACCESSION NUMBER: 2006542919 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16967714
TITLE: [Early laboratory markers of acute renal failure]. Wczesne laboratoryjne markery ostrej niewydolnosci nerek.
AUTHOR: Miklaszewska Monika; Pietrzyk Jacek A; Zachwieja Katarzyna; Drozdz Dorota; Sulowicz Wladylaw
CORPORATE SOURCE: Zaklad Dializ Polsko-Amerykanskiego, Instytutu Pediatrii Collegium Medicum, Uniwersytetu Jagiellonskiego.
SOURCE: Przegla d lekarski, (2006) Vol. 63, No. 2, pp. 81-4. Ref: 34
Journal code: 19840720R. ISSN: 0033-2240.
PUB. COUNTRY: Poland
DOCUMENT TYPE: (ENGLISH ABSTRACT)
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: Polish
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200612
ENTRY DATE: Entered STN: 14 Sep 2006
Last Updated on STN: 29 Dec 2006
Entered Medline: 28 Dec 2006
ED Entered STN: 14 Sep 2006
Last Updated on STN: 29 Dec 2006
Entered Medline: 28 Dec 2006
AB Acute renal failure is a sudden clinical condition caused by loss of renal ability to maintain homeostasis. Despite significant advances in renal

replacement therapy--the mortality rate in ARF patients is still very high--ranging from 20% to 50%. Differential diagnostics, especially between acute prerenal and intrinsic acute renal failure is an extremly important stage in patient evaluation process. In the article--the authors present a short and concise profile of novel, more and less promising for future diagnostic ARF biomarkers: neutrophil gelatinase associated lipocalin (NGAL), sodium/hydrogen exchanger isoform 3 (NHE3), human kidney injury molecule-1 (hKIM-1), interleukin 6 (IL-6), interleukin 8 (IL-8), interleukin 18 (IL-18), urinary cysteine-rich protein (Cyr 61), urinary glutathione-S-transferase (GST), cystatin C, spermidine/spermine N-acetyl transferase (SSAT) and actin) which are recently either in the animal model research stage or during preliminary clinical studies. Extension of research and wideninig of knowledge about the discussed novel, early markers of ARF--would permit for quicker introduction of specifically guided therapy and might improve the prognosis of ARF patients in the near future.

L2 ANSWER 33 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1220561 CAPLUS
DOCUMENT NUMBER: 143:472582
TITLE: NGAL for reduction and amelioration of ischemic and nephrotoxic injuries
INVENTOR(S): Barasch, Jonathan M.; Devarajan, Prasad; Mori, Kiyoshi
PATENT ASSIGNEE(S): The Trustees of Columbia University, USA; Children's Hospital Medical Center
SOURCE: PCT Int. Appl., 80 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005107793	A2	20051117	WO 2005-US15799	20050506
WO 2005107793	A3	20051229		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2005240190	A1	20051117	AU 2005-240190	20050506
CA 2565701	A1	20051117	CA 2005-2565701	20050506
US 2005261191	A1	20051124	US 2005-123364	20050506
EP 1750500	A2	20070214	EP 2005-749675	20050506
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				

PRIORITY APPLN. INFO.:
US 2004-568645P P 20040506
US 2004-615566P P 20041001
WO 2005-US15799 W 20050506

ED Entered STN: 18 Nov 2005
AB Use of neutrophil gelatinase-associated lipocalin (NGAL) as a therapeutic and in a method of treating, reducing, or ameliorating an injury selected from an ischemic injury, an ischemic-reperfusion injury, and a toxin-induced injury, to an organ in a patient. The invention includes administering to the patient NGAL in an amount effective to treat, reduce or ameliorate

ischemic, ischemic-reperfusion, or toxin-induced injury to the organ, such as the kidney. A siderophore can be co-administered with the NGAL. The invention also relates to administering a siderophore to enhance a response to secretion of NGAL following an ischemic or toxin-induced injury to an organ in a patient.

L2 ANSWER 34 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1292077 CAPLUS
DOCUMENT NUMBER: 144:19237
TITLE: Method and kit for the early detection of renal injury by detection of NGAL polypeptide in blood serum
INVENTOR(S): Devarajan, Prasad; Barasch, Jonathan M.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 22 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005272101	A1	20051208	US 2005-96113	20050331
AU 2005253142	A1	20051222	AU 2005-253142	20050607
CA 2569599	A1	20051222	CA 2005-2569599	20050607
WO 2005121788	A2	20051222	WO 2005-US19951	20050607
WO 2005121788	A3	20060511		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1766395	A2	20070328	EP 2005-755309	20050607
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
US 2007037232	A1	20070215	US 2005-374285	20051013

PRIORITY APPLN. INFO.:		
US 2004-577662P	P	20040607
US 2005-96113	A	20050331
WO 2005-US19951	W	20050607

ED Entered STN: 09 Dec 2005
AB A method and kit for detecting the immediate or early onset of renal disease and injury, including renal tubular cell injury, utilize NGAL as an immediate or early on-set biomarker in a sample of blood serum. NGAL is a small secreted polypeptide that is protease resistant and consequently readily detected in the blood serum following renal tubule cell injury. NGAL protein expression is detected predominantly in proximal tubule cells, in a punctuate cytoplasmic distribution reminiscent of a secreted protein. The appearance NGAL in the serum is related to the dose and duration of renal ischemia and nephrotoxemia, and is diagnostic of renal tubule cell injury and renal failure. NGAL detection is also a useful marker for monitoring the nephrotoxic side effects of drugs or other therapeutic agents. Seveny-one children undergoing cardiopulmonary bypass (CPB) were studied. Serial urine and blood samples were analyzed by Western blots and ELISA for NGAL expression. The primary outcome variable was acute renal injury, defined as a 50 % increase in serum creatinine from baseline. Twenty patients (28

%) developed acute renal injury, but the diagnosis using serum creatinine was possible only 1-3 days after CPB. In contrast, urine NGAL rose from a baseline of 1.6±0.3 ng/mL to 147±23 ng/mL at 2 h after CPB. Serum NGAL increased from a baseline of 3.2±0.5 ng/mL to 61±10 ng/mL at 2 h after CPB. Univariate anal. showed a significant correlation between acute renal injury and the following: 2 h urine NGAL, 2 h serum NGAL, and CPB time.

L2 ANSWER 35 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:168152 CAPLUS
DOCUMENT NUMBER: 142:333536
TITLE: Expression of Neutrophil Gelatinase-associated Lipocalin Regulates Epithelial Morphogenesis in Vitro
AUTHOR(S): Gwira, Jane A.; Wei, Feng; Ishibe, Shuta; Ueland, Joseph M.; Barasch, Jonathan; Cantley, Lloyd G.
CORPORATE SOURCE: Department of Medicine, Yale University, Connecticut, NY, 06520, USA
SOURCE: Journal of Biological Chemistry (2005), 280(9), 7875-7882
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 28 Feb 2005
AB Growth factors such as hepatocyte growth factor (HGF) are highly up-regulated during development and following renal injury and are known to induce marked morphogenic actions in cultured tubular epithelial cells, including scattering, migration, single cell branching morphogenesis, and multicellular branching tubulogenesis. In the present study, we demonstrate that HGF stimulates epithelial cells to express neutrophil gelatinase-associated lipocalin (Ngal), a member of the lipocalin family of secreted proteins that has recently been shown to participate in mesenchymal-epithelial transformation via its ability to augment cellular iron uptake. At concns. below those found to mediate iron transport, purified Ngal can induce a promigratory and probranching effect that is dependent on ERK activation. The suppression of Ngal expression using short hairpin RNA results in increased cyst formation by tubular cells. However, the simultaneous addition of Ngal and HGF leads to direct association of the two proteins, and results in a partial inhibition of HGF-mediated activation of c-Met and the downstream MAPK and phosphatidylinositol 3-kinase signaling pathways. This inhibitory effect down-regulates HGF-stimulated single cell migration, and limits branching morphogenesis at both the single cell and multicellular level. These expts. demonstrate that the local expression of Ngal can play a regulatory role in epithelial morphogenesis by promoting the organization of cells into tubular structures while simultaneously neg. modulating the branching effects of HGF.
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 36 OF 60 MEDLINE on STN DUPLICATE 17
ACCESSION NUMBER: 2005400693 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16061852
TITLE: The matrix metalloproteinase-9/neutrophil gelatinase-associated lipocalin complex plays a role in breast tumor growth and is present in the urine of breast cancer patients.
AUTHOR: Fernandez Cecilia A; Yan Li; Louis Gwendolyn; Yang Jiang; Kutok Jeffery L; Moses Marsha A
CORPORATE SOURCE: Vascular Biology Program and Department of Surgery, Children's Hospital Boston, MA, USA.

CONTRACT NUMBER: CA83106 (NCI)
P01CA45548 (NCI)
P50DK065298 (NIDDK)
SOURCE: Clinical cancer research : an official journal of the American Association for Cancer Research, (2005 Aug 1) Vol. 11, No. 15, pp. 5390-5.
Journal code: 9502500. ISSN: 1078-0432.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200601
ENTRY DATE: Entered STN: 3 Aug 2005
Last Updated on STN: 6 Jan 2006
Entered Medline: 5 Jan 2006
ED Entered STN: 3 Aug 2005
Last Updated on STN: 6 Jan 2006
Entered Medline: 5 Jan 2006
AB PURPOSE: Having previously shown that the binding of neutrophil gelatinase-associated lipocalin (NGAL) to matrix metalloproteinase-9 (MMP-9) protects this extracellular matrix remodeling enzyme from autodegradation, we hypothesized that the addition of NGAL to breast cancer cells, which do not express this protein but do express MMP-9, might result in a more aggressive phenotype in vivo. Based on our previous reports that MMPs can be detected in the urine of cancer patients, we also asked whether MMP-9/NGAL could be detected in the urine of breast cancer patients and whether it might be predictive of disease status. EXPERIMENTAL DESIGN: Clones of MCF-7 human breast cancer cells differentially expressing NGAL were generated by stable transfection with human NGAL expression constructs. The established clones were then implanted s.c. in immunodeficient mice and tumor growth was monitored. In addition, we analyzed the urine of individuals with breast cancer and age-matched, sex-matched controls using gelatin zymography for the presence of MMP-9/NGAL. RESULTS: Increased NGAL expression resulted in significant stimulation of tumor growth. Immunohistochemical analysis of MCF-7 tumors revealed that the NGAL-overexpressing ones exhibited increased growth rates that were accompanied by increased levels of MMP-9, increased angiogenesis, and an increase in the tumor cell proliferative fraction. In addition, MMP-9/NGAL complex was detected in 86.36% of the urine samples from breast cancer patients but not in those from healthy age and sex-matched controls. CONCLUSIONS: These findings suggest, for the first time, that NGAL may play an important role in breast cancer in vivo by protecting MMP-9 from degradation thereby enhancing its enzymatic activity and facilitating angiogenesis and tumor growth. Clinically, these data suggest that the urinary detection of MMP-9/NGAL may be useful in noninvasively predicting disease status of breast cancer patients.

L2 ANSWER 37 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:926943 CAPLUS
DOCUMENT NUMBER: 146:74947
TITLE: Expression and significance of neutrophil gelatinase-associated lipocalin in drug-induced acute interstitial nephritis
AUTHOR(S): Zhang, Jianguo; Ding, Hanlu; Ren, Jiangwen; Gao, Wenda
CORPORATE SOURCE: Daping Hospital, Third Military Medical University, Chongqing, 400042, Peop. Rep. China
SOURCE: Di-San Junyi Daxue Xuebao (2005), 27(20), 2083-2085
CODEN: DYXUE8; ISSN: 1000-5404
PUBLISHER: Di-San Junyi Daxue Xuebao Bianjibu

DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 11 Sep 2006
AB The role of neutrophil gelatinase-associated lipocalin (NGAL) in the pathogenesis of drug-induced acute interstitial nephritis (AIN) and its correlation with the degree of tubulointerstitial lesions were investigated. The expression of NGAL of renal tissues from 15 diagnosed drug-induced AIN patients were detected by immunohistochem. staining. Another 15 normal renal tissues were served as control. NGAL expression were significantly higher in AIN than that in the normal renal tissue. The intensity of pos. NGAL in renal tissues of AIN showed a neg. correlation with the degree of tubulointerstitial lesions. Increased expression of NGAL in renal tissue of AIN has an important effect on the degree of tubulointerstitial lesions.

L2 ANSWER 38 OF 60 MEDLINE on STN DUPLICATE 18
ACCESSION NUMBER: 2005179777 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15811456
TITLE: Neutrophil gelatinase-associated lipocalin (NGAL) as a biomarker for acute renal injury after cardiac surgery.
AUTHOR: Mishra Jaya; Dent Catherine; Tarabishi Ridwan; Mitsnefes Mark M; Ma Qing; Kelly Caitlin; Ruff Stacey M; Zahedi Kamyar; Shao Mingyuan; Bean Judy; Mori Kiyoshi; Barasch Jonathan; Devarajan Prasad
CORPORATE SOURCE: Division of Nephrology and Hypertension, Cincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine, Cincinnati, OH 45229-3039, USA.
CONTRACT NUMBER: P50 DK52612 (NIDDK)
R01 DK-58872 (NIDDK)
R01-DK53289 (NIDDK)
R01-DK55388 (NIDDK)
R21-DK070163 (NIDDK)
SOURCE: Lancet, (Apr 2-8 2005) Vol. 365, No. 9466, pp. 1231-8. Journal code: 2985213R. E-ISSN: 1474-547X.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T) (RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200504
ENTRY DATE: Entered STN: 7 Apr 2005
Last Updated on STN: 19 Apr 2005
Entered Medline: 18 Apr 2005
ED Entered STN: 7 Apr 2005
Last Updated on STN: 19 Apr 2005
Entered Medline: 18 Apr 2005
AB BACKGROUND: The scarcity of early biomarkers for acute renal failure has hindered our ability to launch preventive and therapeutic measures for this disorder in a timely manner. We tested the hypothesis that neutrophil gelatinase-associated lipocalin (NGAL) is an early biomarker for ischaemic renal injury after cardiopulmonary bypass. METHODS: We studied 71 children undergoing cardiopulmonary bypass. Serial urine and blood samples were analysed by western blots and ELISA for NGAL expression. The primary outcome measure was acute renal injury, defined as a 50% increase in serum creatinine from baseline. FINDINGS: 20 children (28%) developed acute renal injury, but diagnosis with serum creatinine was only possible 1-3 days after cardiopulmonary bypass. By contrast, urine concentrations of NGAL rose from a mean of 1.6 microg/L (SE 0.3) at baseline to 147 microg/L (23) 2 h after cardiopulmonary bypass, and the amount in serum

increased from a mean of 3.2 microg/L (SE 0.5) at baseline to 61 microg/L (10) 2 h after the procedure. Univariate analysis showed a significant correlation between acute renal injury and the following: urine and serum concentrations of NGAL at 2 h, and cardiopulmonary bypass time. By multivariate analysis, the amount of NGAL in urine at 2 h after cardiopulmonary bypass was the most powerful independent predictor of acute renal injury. For concentration in urine of NGAL at 2 h, the area under the receiver-operating characteristic curve was 0.998, sensitivity was 1.00, and specificity was 0.98 for a cutoff value of 50 microg/L. INTERPRETATION: Concentrations in urine and serum of NGAL represent sensitive, specific, and highly predictive early biomarkers for acute renal injury after cardiac surgery.

L2 ANSWER 39 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:341941 CAPLUS
DOCUMENT NUMBER: 143:816
TITLE: Protective effect of carbon monoxide-releasing compounds in ischemia-induced acute renal failure
AUTHOR(S): Vera, Trinity; Henegar, Jeffrey R.; Drummond, Heather A.; Rimoldi, John M.; Stec, David E.
CORPORATE SOURCE: Department of Physiology and Biophysics, Center for Excellence in Cardiovascular-Renal Research, University of Mississippi Medical Center, Jackson, USA
SOURCE: Journal of the American Society of Nephrology (2005), 16(4), 950-958
CODEN: JASNEU; ISSN: 1046-6673
PUBLISHER: American Society of Nephrology
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 21 Apr 2005
AB Heme oxygenase (HO) induction has been demonstrated to be beneficial in limiting the extent of cellular damage after ischemia-induced acute renal failure (ARF). Because increased HO activity is associated with the production of carbon monoxide (CO) as well as the potent antioxidant bilirubin, it is unclear which of the two is of greater importance in the protective effects of HO induction. The purpose of this study was to determine the protective role of CO alone in ischemia-induced ARF. Bilateral clamping of the renal pedicle for 40 min was associated with a ninefold increase in the levels of plasma creatinine 24 h after reperfusion as compared with normal plasma creatinine levels; however, administration of CO donor compds. tricarbonyldichlororuthenium(II) dimer, ([Ru(CO)3Cl2]2, 10 mg/kg) or tricarbonylchloro(glycinato)ruthenium(II) ([Ru(CO)3Cl(glycinate)], (CORM-3) 1 h before the onset of ischemia significantly decreased the levels of plasma creatinine 24 h after reperfusion as compared with vehicle-treated mice. Surprising, treatment with the CO donors was associated with an increase in HO activity 24 h after ischemia. For determining whether the protective effects of the CO donors were due to CO or HO-1 induction, expts. were performed in which HO was inhibited before administration of the CO donors. Pretreatment with the HO inhibitor had no effect on the level of plasma creatinine 24 h after reperfusion after treatment with the CO donor compds. These results suggest that CO itself may be protective and limit renal damage in ischemia induced ARF.
REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 40 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1180312 CAPLUS
DOCUMENT NUMBER: 144:387750
TITLE: Biomarkers in early diagnosis of renal failure
AUTHOR(S): Zhang, Tong; Mei, Changlin
CORPORATE SOURCE: Changzheng Hospital, Second Military Medical University, Shanghai, 200003, Peop. Rep. China

SOURCE: Zhonghua Jizhen Yixue Zazhi (2005), 14(10), 876-877
CODEN: ZJYZBQ; ISSN: 1671-0282
PUBLISHER: Zhonghua Jizhen Yixue Zazhi Bianjibu
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Chinese
ED Entered STN: 07 Nov 2005
AB A review. Topics discussed include: kidney injury mol. 1 (KIM-1); cysteine-rich protein 61 (Cyr61); Neutrophil gelatinase-associated lipocalin (NGAL); sodium-hydrogen excharger isoform 3 (NHE3); urinary cytokines; urinary actins; urinary glutathione S-transferases (GST)s; and blood and urinary cystatin C.

L2 ANSWER 41 OF 60 MEDLINE on STN DUPLICATE 19
ACCESSION NUMBER: 2005215276 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15711640
TITLE: Endocytic delivery of lipocalin-siderophore-iron complex rescues the kidney from ischemia-reperfusion injury.
AUTHOR: Mori Kiyoshi; Lee H Thomas; Rapoport Dana; Drexler Ian R; Foster Kirk; Yang Jun; Schmidt-Ott Kai M; Chen Xia; Li Jau Yi; Weiss Stacey; Mishra Jaya; Cheema Faisal H; Markowitz Glenn; Suganami Takayoshi; Sawai Kazutomo; Mukoyama Masashi; Kunis Cheryl; D'Agati Vivette; Devarajan Prasad; Barasch Jonathan
CORPORATE SOURCE: Department of Medicine, College of Physicians and Surgeons, Columbia University, New York, New York, USA..
CONTRACT NUMBER: DK55388 (NIDDK)
DK58872 (NIDDK)
SOURCE: The Journal of clinical investigation, (2005 Mar) Vol. 115, No. 3, pp. 610-21.
Journal code: 7802877. ISSN: 0021-9738.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200505
ENTRY DATE: Entered STN: 27 Apr 2005
Last Updated on STN: 10 May 2005
Entered Medline: 9 May 2005
ED Entered STN: 27 Apr 2005
Last Updated on STN: 10 May 2005
Entered Medline: 9 May 2005
AB Neutrophil gelatinase-associated lipocalin (Ngal), also known as siderocalin, forms a complex with iron-binding siderophores (Ngal:siderophore:Fe). This complex converts renal progenitors into epithelial tubules. In this study, we tested the hypothesis that Ngal:siderophore:Fe protects adult kidney epithelial cells or accelerates their recovery from damage. Using a mouse model of severe renal failure, ischemia-reperfusion injury, we show that a single dose of Ngal (10 microg), introduced during the initial phase of the disease, dramatically protects the kidney and mitigates azotemia. Ngal activity depends on delivery of the protein and its siderophore to the proximal tubule. Iron must also be delivered, since blockade of the siderophore with gallium inhibits the rescue from ischemia. The Ngal:siderophore:Fe complex upregulates heme oxygenase-1, a protective enzyme, preserves proximal tubule N-cadherin, and inhibits cell death. Because mouse urine contains an Ngal-dependent siderophore-like activity, endogenous Ngal might also play a protective role. Indeed, Ngal is highly accumulated in the human kidney cortical tubules and in the blood and urine after nephrotoxic and ischemic injury. We reveal what we believe to be a novel pathway of iron traffic that is activated in human and mouse renal

diseases, and it provides a unique method for their treatment.

L2 ANSWER 42 OF 60 MEDLINE on STN DUPLICATE 20
ACCESSION NUMBER: 2005484835 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16153449
TITLE: PJ34, a poly-ADP-ribose polymerase inhibitor, modulates renal injury after thoracic aortic ischemia/reperfusion.
AUTHOR: Stone David H; Al-Badawi Hassan; Conrad Mark F; Stoner Michael C; Entabi Fateh; Cambria Richard P; Watkins Michael T
CORPORATE SOURCE: Division of Vascular and Endovascular Surgery, Department of Surgery, Massachusetts General Hospital, Harvard Medical School, Boston 02114, USA.
SOURCE: Surgery, (2005 Aug) Vol. 138, No. 2, pp. 368-74. Journal code: 0417347. ISSN: 0039-6060.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200510
ENTRY DATE: Entered STN: 13 Sep 2005
Last Updated on STN: 19 Oct 2005
Entered Medline: 18 Oct 2005
ED Entered STN: 13 Sep 2005
Last Updated on STN: 19 Oct 2005
Entered Medline: 18 Oct 2005
AB BACKGROUND: These experiments sought to evaluate the effects of PJ34, a poly-ADP-ribose polymerase inhibitor, on molecular indices of renal injury, mitochondrial function, tissue thrombosis, and fibrinolysis after thoracic aortic ischemia/reperfusion (TAR). METHODS: Forty-three 129S1/SvImj mice were subjected to 11 minutes of TAR followed by 48 hours of reperfusion. Experimental groups included untreated normal saline (NS) controls (UC), (n=15, 0.5 mL NS i.p.) or PJ34 (PJ) (n=17, PJ34 10 mg/kg ip, 1 hour before and after TAR). Sham (SH) mice (n=11) underwent median sternotomy (heparin, NS i.p.) without TAR. Forty-eight hours after TAR or sham operation, kidney mitochondrial activity (using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium [MTT]), D-dimer, and thrombin-antithrombin III (TAT) complex levels were measured. Levels of messenger RNA for neutrophil gelatinase-associated lipocalin (NGAL), a marker for renal injury, were also measured by reverse transcriptase-polymerase chain reaction. RESULTS: PJ34 improves renal mitochondrial activity after 48 hours of TAR, compared with untreated control animals (UC, 87.6 +/- 2.2%; PJ, 151.4 +/- 9.5%; P < .001). PJ34 did not alter the increase in renal D-dimer levels by 48 hours reperfusion (UC, 1.37 +/- 0.09 U; PJ, 1.1 +/- 0.14 U; SH, 0.82 +/- 0.06 U; P < .05). TAR did not alter renal levels of TAT expression among groups (UC, 0.103 +/- 0.034; PJ, 0.067 +/- 0.008; SH, 0.106 +/- 0.027; P=.619). The incidence of significantly increased NGAL among UC mice was 1415 +/- 823.6 (n=12), compared with 29.6 +/- 20.8 (n=10) in the PJ34-treated group (P < .014). CONCLUSIONS: PJ34 preserves renal mitochondrial activity and decreases steady-state levels of NGAL after TAR. TAR did increase markers of fibrinolysis in renal tissue but their increase did not correlate with renal injury or PJ34 treatment. These studies indicate that PJ34 confers protection against TAR and suggest that PARP may represent a novel target for reducing perioperative renal injury.

L2 ANSWER 43 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:847662 CAPLUS
DOCUMENT NUMBER: 141:310293
TITLE: A method and kit for detecting the early onset of renal tubular cell injury
INVENTOR(S): Devarajan, Prased; Barasch, Jonathan M.

PATENT ASSIGNEE(S): Children's Hospital Medical Center, USA; The Trustees of Columbia University
SOURCE: PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004088276	A2	20041014	WO 2004-US9191	20040326
WO 2004088276	A3	20041125		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004225472	A1	20041014	AU 2004-225472	20040326
CA 2520658	A1	20041014	CA 2004-2520658	20040326
US 2004219603	A1	20041104	US 2004-811130	20040326
EP 1616184	A2	20060118	EP 2004-758356	20040326
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
BR 2004008802	A	20060404	BR 2004-8802	20040326
CN 1791797	A	20060621	CN 2004-80013336	20040326
JP 2006521565	T	20060921	JP 2006-509304	20040326

PRIORITY APPLN. INFO.:
US 2003-458143P P 20030327
US 2003-481596P P 20031104
WO 2004-US9191 W 20040326

ED Entered STN: 15 Oct 2004

AB A method and kit for detecting the early onset of renal tubular cell injury, utilizing NGAL as an early urinary biomarker. NGAL is a small secreted polypeptide that is protease resistant and consequently readily detected in the urine following renal tubule cell injury. NGAL protein expression is detected predominantly in proximal tubule cells, in a punctate cytoplasmic distribution reminiscent of a secreted protein. The appearance NGAL in the urine is related to the dose and duration of renal ischemia and nephrotoxemia, and is diagnostic of renal tubule cell injury and renal failure. NGAL detection is also a useful marker for monitoring the nephrotoxic side effects of drugs or other therapeutic agents.

L2 ANSWER 44 OF 60 MEDLINE on STN DUPLICATE 21
ACCESSION NUMBER: 2004613666 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15579510
TITLE: Amelioration of ischemic acute renal injury by neutrophil gelatinase-associated lipocalin
AUTHOR: Mishra Jaya; Mori Kiyoshi; Ma Qing; Kelly Caitlin; Yang Jun; Mitsnefes Mark; Barasch Jonathan; Devarajan Prasad
CORPORATE SOURCE: Division of Nephrology and Hypertension, MLC 7022, Cincinnati Children's Hospital Medical Center, 3333 Burnet Avenue, Cincinnati, OH 45229-3039, USA.
SOURCE: Journal of the American Society of Nephrology : JASN, (2004 Dec) Vol. 15, No. 12, pp. 3073-82.
Journal code: 9013836. ISSN: 1046-6673.
PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200501
ENTRY DATE: Entered STN: 20 Dec 2004
Last Updated on STN: 2 Feb 2005
Entered Medline: 31 Jan 2005
ED Entered STN: 20 Dec 2004
Last Updated on STN: 2 Feb 2005
Entered Medline: 31 Jan 2005
AB Acute renal failure secondary to ischemic injury remains a common problem, with limited and unsatisfactory therapeutic options. Neutrophil gelatinase-associated lipocalin (NGAL) was recently shown to be one of the maximally induced genes early in the postischemic kidney. In this study, the role of NGAL in ischemic renal injury was explored. Intravenous administration of purified recombinant NGAL in mice resulted in a rapid uptake of the protein predominantly by proximal tubule cells. In an established murine model of renal ischemia-reperfusion injury, intravenous NGAL administered before, during, or after ischemia resulted in marked amelioration of the morphologic and functional consequences, as evidenced by a significant decrease in the histopathologic damage to tubules and in serum creatinine measurements. NGAL-treated animals also displayed a reduction in the number of apoptotic tubule cells and an increase in proliferating proximal tubule cells after ischemic injury. The results indicate that NGAL may represent a novel therapeutic intervention in ischemic acute renal failure, based at least in part on its ability to tilt the balance of tubule cell fate toward survival.

L2 ANSWER 45 OF 60 MEDLINE on STN DUPLICATE 22
ACCESSION NUMBER: 2004334407 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15148457
TITLE: Neutrophil gelatinase-associated lipocalin: a novel early urinary biomarker for cisplatin nephrotoxicity.
AUTHOR: Mishra Jaya; Mori Kiyoshi; Ma Qing; Kelly Caitlin; Barasch Jonathan; Devarajan Prasad
CORPORATE SOURCE: Nephrology and Hypertension, Cincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine, Cincinnati, Ohio 45229-3039, USA.
CONTRACT NUMBER: DK52612 (NIDDK)
DK53289 (NIDDK)
DK55388 (NIDDK)
DK58872 (NIDDK)
SOURCE: American journal of nephrology, (2004 May-Jun) Vol. 24, No. 3, pp. 307-15. Electronic Publication: 2004-05-12.
Journal code: 8109361. ISSN: 0250-8095.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200502
ENTRY DATE: Entered STN: 7 Jul 2004
Last Updated on STN: 4 Feb 2005
Entered Medline: 3 Feb 2005
ED Entered STN: 7 Jul 2004
Last Updated on STN: 4 Feb 2005
Entered Medline: 3 Feb 2005
AB BACKGROUND: Cisplatin is one of the most widely used chemotherapeutic agents, but the risk of nephrotoxicity frequently hinders the use of higher doses to maximize its antineoplastic effects. The lack of early biomarkers has impaired our ability to initiate potential therapeutic or preventive interventions in cisplatin nephrotoxicity in a timely manner.

In this study, we have explored the expression and urinary excretion of neutrophil gelatinase-associated lipocalin (NGAL) in a mouse model of cisplatin-induced nephrotoxic injury. METHODS: Mice were subjected to intraperitoneal injections of 20 mg/kg (high dose) or 5 mg/kg (low dose) cisplatin. The expression of NGAL was measured in the kidney and urine by Western analysis and immunofluorescence, and compared to changes in serum creatinine and urinary N-acetyl-beta-D-glucosaminidase (NAG). RESULTS: Cisplatin resulted in tubule cell necrosis and apoptosis following the high dose, but not the low dose. By Western analysis, NGAL protein was rapidly induced in the kidney within 3 h of high-dose cisplatin. By immunofluorescence, NGAL was induced predominantly in proximal tubule cells in a punctate cytoplasmic distribution, reminiscent of a secreted protein. NGAL was easily detected in the urine by Western analysis within 3 h of cisplatin administration in a dose- and duration-dependent manner. By comparison, changes in urinary NAG or serum creatinine were not evident until 96 h after cisplatin. Using defined concentrations of purified recombinant NGAL, urinary NGAL excretion following cisplatin administration was quantified to be in the 20-80 ng/ml range. CONCLUSION: The results indicate that NGAL represents an early and quantitative urinary biomarker for cisplatin nephrotoxicity.

L2 ANSWER 46 OF 60 MEDLINE on STN DUPLICATE 23
ACCESSION NUMBER: 2003454179 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14514731
TITLE: Identification of neutrophil gelatinase-associated lipocalin as a novel early urinary biomarker for ischemic renal injury.
AUTHOR: Mishra Jaya; Ma Qing; Prada Anne; Mitsnefes Mark; Zahedi Kamyar; Yang Jun; Barasch Jonathan; Devarajan Prasad
CORPORATE SOURCE: Nephrology & Hypertension, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio 45229-3039, USA.
CONTRACT NUMBER: DK52612 (NIDDK)
DK53289 (NIDDK)
DK55388 (NIDDK)
DK58872 (NIDDK)
SOURCE: Journal of the American Society of Nephrology : JASN, (2003 Oct) Vol. 14, No. 10, pp. 2534-43.
Journal code: 9013836. ISSN: 1046-6673.
PUB. COUNTRY: United States
DOCUMENT TYPE: (IN VITRO)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200409
ENTRY DATE: Entered STN: 30 Sep 2003
Last Updated on STN: 15 Sep 2004
Entered Medline: 14 Sep 2004
ED Entered STN: 30 Sep 2003
Last Updated on STN: 15 Sep 2004
Entered Medline: 14 Sep 2004
AB Acute renal failure (ARF) secondary to ischemic injury remains a common and potentially devastating problem. A transcriptome-wide interrogation strategy was used to identify renal genes that are induced very early after renal ischemia, whose protein products might serve as novel biomarkers for ARF. Seven genes that are upregulated >10-fold were identified, one of which (Cyr61) has recently been reported to be induced after renal ischemia. Unexpectedly, the induction of the other six transcripts was novel to the ARF field. In this study, one of these

previously unrecognized genes was further characterized, namely neutrophil gelatinase-associated lipocalin (NGAL), because it is a small secreted polypeptide that is protease resistant and consequently might be readily detected in the urine. The marked upregulation of NGAL mRNA and protein levels in the early postischemic mouse kidney was confirmed. NGAL protein expression was detected predominantly in proliferating cell nuclear antigen-positive proximal tubule cells, in a punctate cytoplasmic distribution that co-localized with markers of late endosomes. NGAL was easily detected in the urine in the very first urine output after ischemia in both mouse and rat models of ARF. The appearance of NGAL in the urine was related to the dose and duration of renal ischemia and preceded the appearance of other urinary markers such as N-acetyl-beta-D-glucosaminidase and beta2-microglobulin. The origin of NGAL from tubule cells was confirmed in cultured human proximal tubule cells subjected to in vitro ischemic injury, where NGAL mRNA was rapidly induced in the cells and NGAL protein was readily detectable in the culture medium within 1 h of mild ATP depletion. NGAL was also easily detectable in the urine of mice with cisplatin-induced nephrotoxicity, again preceding the appearance of N-acetyl-beta-D-glucosaminidase and beta2-microglobulin. The results indicate that NGAL may represent an early, sensitive, noninvasive urinary biomarker for ischemic and nephrotoxic renal injury.

L2 ANSWER 47 OF 60 MEDLINE on STN
ACCESSION NUMBER: 2004006529 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14703455
TITLE: Expression of matrix metalloproteinase-9 and its complex in the urine of breast cancer patients.
AUTHOR: Shen Zhe-zhu; Zhao Wei; Gu Jin; Zhang Zhi-qian; Yan Li
CORPORATE SOURCE: Department of Surgery, College of Clinical Oncology, Beijing Medical University, Beijing 100036, China.
SOURCE: Zhonghua wai ke za zhi [Chinese journal of surgery], (2003 Nov) Vol. 41, No. 11, pp. 817-9.
Journal code: 0153611. ISSN: 0529-5815.
PUB. COUNTRY: China
DOCUMENT TYPE: (ENGLISH ABSTRACT)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Chinese
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200405
ENTRY DATE: Entered STN: 6 Jan 2004
Last Updated on STN: 28 May 2004
Entered Medline: 27 May 2004
ED Entered STN: 6 Jan 2004
Last Updated on STN: 28 May 2004
Entered Medline: 27 May 2004
AB OBJECTIVE: To investigate the expression and clinical significance of matrix metalloproteinase-9 and its complex in the urine of the patient with breast cancer. METHODS: Using substract gel electrophoresis and western-blot analysis, expressions of MMP-9 and MMP-9/NGAL complex in breast cancer (n = 97), breast benign (n = 41) and normal (n = 60) were observed. RESULTS: There MMP-9 and MMP-9/NGAL complex expressions were 76.29% and 64.95% in breast cancer, 46.34% and 43.90% in breast benign, and 23.33% in normal respectively. The MMP-9 and MMP-9/NGAL complex expressions were higher in breast cancer than those in breast benign and in normal (chi(2) = 7.456, P < 0.01). MMP-9 and MMP-9/NGAL complex expressions in urine of breast cancer had not any relationship with tumor size, TNM stage, patient age, menopause status as well as ER status, but was correlated to lymphatic node status (chi(2) = 5.206, P < 0.05). CONCLUSIONS: MMP-9 and MMP-9/NGAL complex expressions in urine are significant in estimating lymphatic node metastasis in breast cancer and a valuable early prognostic factors and screening in breast cancer.

L2 ANSWER 48 OF 60 MEDLINE on STN DUPLICATE 24
ACCESSION NUMBER: 2003094612 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12605707
TITLE: Increased circulating levels of proteinase 3 in patients with anti-neutrophilic cytoplasmic autoantibodies-associated systemic vasculitis in remission.
AUTHOR: Ohlsson S; Wieslander J; Segelmark M
CORPORATE SOURCE: Department of Nephrology, Lund University Hospital, Lund, Sweden.. Sophie.Ohlsson@njur.lu.se
SOURCE: Clinical and experimental immunology, (2003 Mar) Vol. 131, No. 3, pp. 528-35.
Journal code: 0057202. ISSN: 0009-9104.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 28 Feb 2003
Last Updated on STN: 13 May 2003
Entered Medline: 9 May 2003
ED Entered STN: 28 Feb 2003
Last Updated on STN: 13 May 2003
Entered Medline: 9 May 2003
AB In systemic small vessel vasculitides, patients form autoantibodies against neutrophil granular proteins, anti-neutrophilic cytoplasmic autoantibodies (ANCA). Some correlation is seen between ANCA titre and disease activity, but whether this is cause or effect is still unknown. It has been reported that levels of proteinase 3 (PR3), one of the main ANCA antigens, are increased in patients with active disease. An increased level of circulating antigen could mean a predisposition to autoimmunity. In order to explore this we measured PR3 levels in patients with stable disease. In addition we measured neutrophil gelatinase-associated lipocalin (NGAL) as a specific marker of neutrophil degranulation, cystatin C as a marker of renal function as well as C-reactive protein (CRP), IL-6 and sTNFr1 as markers of inflammation. PR3, NGAL, IL-6 and sTNFr1 were measured in plasma by the ELISA technique. In the PR3 ELISA, we used anti-PR3 monoclonal antibodies as capture-antibodies and affinity-purified rabbit-anti-PR3 antibodies for detection. PR3-ANCA, myeloperoxidase (MPO)-ANCA, CRP and cystatin C were measured by routine methods. PR3 was significantly raised ($P < 0.0001$) in vasculitis patients (median 560 micro g/l, range 110-3,940, $n = 59$) compared with healthy blood donors (350 micro g/l, 110-580, $n = 30$) as well as disease controls (360, 110-580, $n = 46$). No correlation was seen with disease activity, inflammation or renal function. The raised NGAL levels correlated strongly with decreased renal function ($r = 0.8$, $P < 0.001$). After correcting for this, slightly increased levels (110, 42-340, $n = 59$) were observed compared with healthy blood donors (81, 38-130, $n = 25$), but not compared with the disease controls (120, 57-260, $n = 48$). In the disease controls, there was a significant correlation between NGAL and proteinase 3 ($r = 0.3$, $p < 0.05$), but this was not the case in the vasculitis patients. Whether patients had PR3-ANCA or MPO-ANCA was of no significance. In our measurements, we found significantly raised levels of PR3 in plasma from patients with small vessel vasculitis, regardless of ANCA specificity. This was not due to decreased renal function, ongoing inflammation or neutrophil activation. Plausible mechanisms for this include defects in the reticuloendothelial system, genetic factors and selective neutrophil degranulation or leakage.

L2 ANSWER 49 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2004:93450 BIOSIS

DOCUMENT NUMBER: PREV200400086642
TITLE: Identification of NGAL as a novel early urinary biomarker for ischemic renal injury.
AUTHOR(S): Mishra, Jaya [Reprint Author]; Ma, Qing [Reprint Author]; Prada, Anne [Reprint Author]; Zahedi, Kamyar [Reprint Author]; Yang, Jun; Barasch, Jonathan; Devarajan, Prasad [Reprint Author]
CORPORATE SOURCE: Nephrology and Hypertension, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA
SOURCE: Journal of the American Society of Nephrology, (November 2003) Vol. 14, No. Abstracts Issue, pp. 275A. print.
Meeting Info.: Meeting of the American Society of Nephrology Renal Week. San Diego, CA, USA. November 12-17, 2003. American Society of Nephrology.
CODEN: JASNEU. ISSN: 1046-6673.
DOCUMENT TYPE: Conference; (Meeting)
Conference; (Meeting Poster)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 11 Feb 2004
Last Updated on STN: 11 Feb 2004
ED Entered STN: 11 Feb 2004
Last Updated on STN: 11 Feb 2004

L2 ANSWER 50 OF 60 MEDLINE on STN DUPLICATE 25
ACCESSION NUMBER: 2003090296 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12573252
TITLE: Macrophage-induced rat mesangial cell expression of the 24p3-like protein alpha-2-microglobulin-related protein.
AUTHOR: Pawluczyk Izabella Z A; Furness Peter N; Harris Kevin P G
CORPORATE SOURCE: Department of Nephrology, Leicester General Hospital, Gwendolen Road, Leicester LE5 4PW, UK. iap. l@le.ac.uk
SOURCE: Biochimica et biophysica acta, (2003 Feb 21) Vol. 1645, No. 2, pp. 218-27.
Journal code: 0217513. ISSN: 0006-3002.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 27 Feb 2003
Last Updated on STN: 8 May 2003
Entered Medline: 7 May 2003
ED Entered STN: 27 Feb 2003
Last Updated on STN: 8 May 2003
Entered Medline: 7 May 2003
AB During screening of a murine macrophage cDNA repertoire for factors potentially able to modulate glomerular cell responses to injury, we identified a gene coding for the murine protein 24p3 lipocalin. Immunostaining of normal rat kidney sections showed positive 24p3-like staining in distal tubules/collecting ducts and small muscular arteries. Although most glomeruli were negative, some did exhibit small numbers of positively stained cells. Cultured rat glomeruli and glomerular mesangial cells secreted the 24p3-like protein in response to macrophage-conditioned medium (MPCM) and the cytokine IL-1beta. MPCM derived from TGFbeta-pretreated macrophages enhanced mesangial cell 24p3 secretion. In contrast, addition of anti-IL-1beta neutralising antibody to MPCM or IL-1beta resulted in suppression of 24p3 secretion. Co-culture of mesangial cells with varying numbers of non-LPS-treated macrophages resulted in dose-dependent secretion of 24p3 into culture supernatants. Archival sections from polyvinyl alcohol-treated and cholesterol-fed rats showed positive glomerular staining for 24p3 in and around glomerular foam

cells. Nucleotide sequencing of rat mesangial cell-derived 24p3 cDNA revealed it to be identical to rat alpha-2-microglobulin-related protein (alpha2microGRP), the rat homologue of murine 24p3.These data provide the first description of rat alpha2microGRP in the context of mesangial cell pathophysiology.

L2 ANSWER 51 OF 60 MEDLINE on STN DUPLICATE 26
ACCESSION NUMBER: 2003547683 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14627119
TITLE: Ureteric bud controls multiple steps in the conversion of mesenchyme to epithelia.
AUTHOR: Mori Kiyoshi; Yang Jun; Barasch Jonathan
CORPORATE SOURCE: Department of Medicine, Columbia University, New York, NY 10032, USA.
CONTRACT NUMBER: DK 55388 (NIDDK)
DK 58872 (NIDDK)
SOURCE: Seminars in cell & developmental biology, (2003 Aug) Vol. 14, No. 4, pp. 209-16. Ref: 95
Journal code: 9607332. ISSN: 1084-9521.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200312
ENTRY DATE: Entered STN: 21 Nov 2003
Last Updated on STN: 19 Dec 2003
Entered Medline: 12 Dec 2003
ED Entered STN: 21 Nov 2003
Last Updated on STN: 19 Dec 2003
Entered Medline: 12 Dec 2003
AB Conversion of renal mesenchyme into epithelia depends on the ureteric bud, but its specific actions are not established. From conditioned media of ureteric bud cells, we have identified molecules that mimic the growth and epithelialization of mesenchyme in vivo. LIF targets late epithelial progenitors surrounding the ureteric bud, and in combination with survival factors, converts them into nephrons. In contrast, 24p3/
Ngal targets early progenitors at the kidney's periphery
through an iron-mediated, but a transferrin-independent mechanism. Hence, the ureteric bud controls many steps of cell conversion. A genome wide search for ureteric bud-specific molecules will identify additional pathways that induce morphogenesis.

L2 ANSWER 52 OF 60 MEDLINE on STN DUPLICATE 27
ACCESSION NUMBER: 2003260788 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12788784
TITLE: Iron, lipocalin, and kidney epithelia.
AUTHOR: Yang Jun; Mori Kiyoshi; Li Jau Yi; Barasch Jonathan
CORPORATE SOURCE: Dept. of Medicine and Anatomy and Cell Biology, College of Physicians and Surgeons of Columbia Univ., 630 W 168th St., New York, NY 10032, USA.
CONTRACT NUMBER: DK-55388 (NIDDK)
SOURCE: American journal of physiology. Renal physiology, (2003 Jul) Vol. 285, No. 1, pp. F9-18. Ref: 136
Journal code: 100901990. ISSN: 0363-6127.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals

ENTRY MONTH: 200307
ENTRY DATE: Entered STN: 6 Jun 2003
Last Updated on STN: 13 Jul 2003
Entered Medline: 11 Jul 2003
ED Entered STN: 6 Jun 2003
Last Updated on STN: 13 Jul 2003
Entered Medline: 11 Jul 2003
AB Brilliant new discoveries in the field of iron metabolism have revealed novel transmembrane iron transporters, novel hormones that regulate iron traffic, and iron's control of gene expression. An important role for iron in the embryonic kidney was first identified by Ekblom, who studied transferrin (Landschulz W and Ekblom P. J Biol Chem 260: 15580-15584, 1985; Landschulz W, Thesleff I, and Ekblom P. J Cell Biol 98: 596-601, 1984; Thesleff I, Partanen AM, Landschulz W, Trowbridge IS, and Ekblom P. Differentiation 30: 152- 158, 1985). Nevertheless, how iron traffics to developing organs remains obscure. This review discusses a member of the lipocalin superfamily, 24p3 or neutrophil gelatinase-associated lipocalcin (NGAL), which induces the formation of kidney epithelia. We review the data showing that lipocalins transport low-molecular-weight chemical signals and data indicating that 24p3/NGAL transports iron. We compare 24p3/NGAL to transferrin and a variety of other iron trafficking pathways and suggest specific roles for each in iron transport.

L2 ANSWER 53 OF 60 EMBASE
ACCESSION NUMBER: 2003275415 EMBASE
TITLE: Iron, lipocalin, and kidney epithelia.
AUTHOR: Yang J.; Mori K.; Li J.Y.; Barasch J.
CORPORATE SOURCE: J. Barasch, Dept. of Med./Anat. and Cell Biology, College of Physicians and Surgeons, Columbia Univ., 630 W 168th St., New York, NY 10032, United States. jmb4@columbia.edu
SOURCE: American Journal of Physiology - Renal Physiology, (1 Jul 2003) Vol. 285, No. 1 54-1, pp. F9-F18. .
Refs: 136
ISSN: 0363-6127 CODEN: AJPPFK
COUNTRY: United States
DOCUMENT TYPE: Journal; General Review
FILE SEGMENT: 002 Physiology
028 Urology and Nephrology
029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 24 Jul 2003
Last Updated on STN: 24 Jul 2003
ED Entered STN: 24 Jul 2003
Last Updated on STN: 24 Jul 2003
AB Brilliant new discoveries in the field of iron metabolism have revealed novel transmembrane iron transporters, novel hormones that regulate iron traffic, and iron's control of gene expression. An important role for iron in the embryonic kidney was first identified by Ekblom, who studied transferrin (Landschulz W and Ekblom P. J Biol Chem 260: 15580-15584, 1985; Landschulz W, Thesleff I, and Ekblom P. J Cell Biol 98: 596-601, 1984; Thesleff I, Partanen AM, Landschulz W, Trowbridge IS, and Ekblom P. Differentiation 30: 152-158, 1985). Nevertheless, how iron traffics to developing organs remains obscure. This review discusses a member of the lipocalin superfamily, 24p3 or neutrophil gelatinase-associated lipocalcin (NGAL), which induces the formation of kidney epithelia. We review the data showing that lipocalins transport low-molecular-weight chemical signals and data indicating that 24p3/NGAL transports iron. We compare 24p3/NGAL to transferrin and a variety of other iron trafficking pathways and suggest specific roles for each in iron transport.

L2 ANSWER 54 OF 60 MEDLINE on STN DUPLICATE 28
ACCESSION NUMBER: 2002500356 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12361901
TITLE: Urinary release of 72 and 92 kDa gelatinases, TIMPs, N-GAL and conventional prognostic factors in urothelial carcinomas.
AUTHOR: Monier Frederique; Mollier Serge; Guillot Michele; Rambeaud Jean-Jaques; Morel Francoise; Zaoui Philippe
CORPORATE SOURCE: GREPI, EA 2938, Laboratory of Enzymology, CHU Grenoble, France.
SOURCE: European urology, (2002 Oct) Vol. 42, No. 4, pp. 356-63. Journal code: 7512719. ISSN: 0302-2838.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 4 Oct 2002
Last Updated on STN: 21 May 2003
Entered Medline: 20 May 2003
ED Entered STN: 4 Oct 2002
Last Updated on STN: 21 May 2003
Entered Medline: 20 May 2003
AB OBJECTIVES: A urinary release of gelatinases A and B matrix metalloproteinases-2, -9 (MMP-2, -9), and tissue inhibitors (TIMP-1, -2) occurs during normal epithelial turnover. A proteinase increase, reduced inhibitors or both potentially account for cell mobility and bladder cancer progression. In order to define normal levels and thresholds for transitional cell carcinoma (TCC) patients, urinary gelatinases, tissue inhibitors and neutrophil-gelatinase-associated lipocalin (N-GAL) were investigated for end-point clinical status and compared with normal subjects during a 2-year follow-up prospective study. METHODS: Urine specimens [50 adult normal controls; 28 in situ carcinoma patients (pTa) and 23 with ruptured basement membrane (pT1-4)] were screened by gelatin zymograms, immunoblots and ELISA. RESULTS: (1) An important release of inhibitors over low levels of active enzymes was observed in controls independently of age and sex except for higher TIMP-1 levels in males. (2) In cancer patients, increased pro-MMP-9 and active MMP-2 with reduced TIMP-2 levels correlated with higher stages and histological grades. (3) Conversely, reduced MMP-9 and lipocalin levels were initial hallmarks of clinical relapses. CONCLUSIONS: The imbalance between increased MMP-2, -9 and decreased TIMP-2 levels appears to be linked to tumor stage and grade and, more importantly, to clinical events. Changes in the MMP-9 activation state and a lack of N-GAL present as novel markers of tumor progression.

L2 ANSWER 55 OF 60 MEDLINE on STN DUPLICATE 29
ACCESSION NUMBER: 2001532372 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11486009
TITLE: The high molecular weight urinary matrix metalloproteinase (MMP) activity is a complex of gelatinase B/MMP-9 and neutrophil gelatinase-associated lipocalin (NGAL). Modulation of MMP-9 activity by NGAL.
AUTHOR: Yan L; Borregaard N; Kjeldsen L; Moses M A
CORPORATE SOURCE: Department of Surgery, Children's Hospital, Harvard Medical School, Boston, Massachusetts 02115, USA.
SOURCE: The Journal of biological chemistry, (2001 Oct 5) Vol. 276, No. 40, pp. 37258-65. Electronic Publication: 2001-08-02. Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 2 Oct 2001
Last Updated on STN: 5 Jan 2003
Entered Medline: 4 Dec 2001

ED Entered STN: 2 Oct 2001
Last Updated on STN: 5 Jan 2003
Entered Medline: 4 Dec 2001

AB Detection of matrix metalloproteinase (MMP) activities in the urine from patients with a variety of cancers has been closely correlated to disease status. Among these activities, the presence of a group of high molecular weight (HMW) MMPs independently serves as a multivariate predictor of the metastatic phenotype (). The identity of these HMW MMP activities has remained unknown despite their novelty and their potentially important applications in non-invasive cancer diagnosis and/or prognosis. Here, we report the identification of one of these HMW urinary MMPs of approximately 125-kDa as being a complex of gelatinase B (MMP-9) and neutrophil gelatinase-associated lipocalin (NGAL). Multiple biochemical approaches verified this identity. Analysis using substrate gel electrophoresis demonstrated that the 125-kDa urinary MMP activity co-migrates with purified human neutrophil MMP-9 x NGAL complex. The 125-kDa urinary MMP-9 x NGAL complex was recognized by a purified antibody against human NGAL as well as by a monospecific anti-human MMP-9 antibody. Furthermore, these same two antibodies were independently capable of specifically immunoprecipitating the 125-kDa urinary MMP activity in a dose-dependent manner. In addition, the complex of MMP-9 x NGAL could be reconstituted in vitro by mixing MMP-9 and NGAL in gelatinase buffers with pH values in the range of urine and in normal urine as well. Finally, the biochemical consequences of the NGAL and MMP-9 interaction were investigated both in vitro using recombinant human NGAL and MMP-9 and in cell culture by overexpressing NGAL in human breast carcinoma cells. Our data demonstrate that NGAL is capable of protecting MMP-9 from degradation in a dose-dependent manner and thereby preserving MMP-9 enzymatic activity. In summary, this study identifies the 125-kDa urinary gelatinase as being a complex of MMP-9 and NGAL and provides evidence that NGAL modulates MMP-9 activity by protecting it from degradation.

L2 ANSWER 56 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

ACCESSION NUMBER: 2002:321103 BIOSIS
DOCUMENT NUMBER: PREV200200321103
TITLE: Co-regulation of neutrophil gelatinase-associated lipocalin and matrix metalloproteinase-9 in the postischemic rat kidney.
AUTHOR(S): Matthaeus, T. [Reprint author]; Schulze-Lohoff, E. [Reprint author]; Ichimura, T. [Reprint author]; Weber, M.; Andreucci, M. [Reprint author]; Park, K. M. [Reprint author]; Alessandrini, A. [Reprint author]; Bonventre, J. V. [Reprint author]
CORPORATE SOURCE: Renal Unit, Mass. General Hospital, Boston, MA, USA
SOURCE: Journal of the American Society of Nephrology, (September, 2001) Vol. 12, No. Program and Abstract Issue, pp. 787A. print.
Meeting Info.: ASN (American Society of Nephrology)/ISN (International Society of Nephrology) World Congress of Nephrology. San Francisco, CA, USA. October 10-17, 2001.
CODEN: JASNEU. ISSN: 1046-6673.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
Conference; (Meeting Poster)
LANGUAGE: English
ENTRY DATE: Entered STN: 5 Jun 2002

Last Updated on STN: 5 Jun 2002
ED Entered STN: 5 Jun 2002
Last Updated on STN: 5 Jun 2002

L2 ANSWER 57 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2002:6720 BIOSIS
DOCUMENT NUMBER: PREV200200006720
TITLE: Acute ischemic renal failure induces expression of neutrophil gelatinase-associated lipocalin and matrix metalloproteinase-9 in damaged tubuli.
AUTHOR(S): Matthaeus, T. [Reprint author]; Weber, M. [Reprint author]; Alessandrini, A.; Bonventre, J.; Schulze-Lohoff, E. [Reprint author]
CORPORATE SOURCE: Medizinische Klinik I, Klinikum Koeln-Merheim, Koeln, Germany
SOURCE: Kidney and Blood Pressure Research, (2001) Vol. 24, No. 4-6, pp. 342. print.
Meeting Info.: Joint Scientific Meeting of the Nephrology Society and the German Working Group for Clinical Nephrology. Munster, Germany. September 29-October 02, 2001.
ISSN: 1420-4096.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 28 Dec 2001
Last Updated on STN: 25 Feb 2002
ED Entered STN: 28 Dec 2001
Last Updated on STN: 25 Feb 2002

L2 ANSWER 58 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:490270 CAPLUS
DOCUMENT NUMBER: 133:264743
TITLE: Gelatinase isoforms in urine from bladder cancer patients
AUTHOR(S): Monier, F.; Surla, A.; Guillot, M.; Morel, F.
CORPORATE SOURCE: MENRT, CHU Albert Michallon, EA 2938 GREPI and Laboratoire d'Enzymologie, Grenoble, 38043, Fr.
SOURCE: Clinica Chimica Acta (2000), 299(1-2), 11-23
CODEN: CCATAR; ISSN: 0009-8981
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 20 Jul 2000
AB Matrix metalloproteinases are involved in tumor invasion and metastasis in many types of human carcinomas, in leukocyte infiltration and inflammatory reactions. Three metalloproteinases with gelatinolytic activity were isolated from the urine of patients with untreated high grade bladder cancer or with functioning renal grafts (control). Urinary proteins were fractionated after concentration by continuous-elution SDS-PAGE. Collected fractions were analyzed by gelatin zymog. and Western blotting. The one-step purification process isolated the gelatinase species from crude urine samples: (1) a 72 kDa progelatinase A (MMP-2) and its active 68 kDa form; (2) a 92 kDa progelatinase B (MMP-9); (3) a higher mol. weight (HMW) complex (115 kDa) which was identified as progelatinase B associated with lipocalin, NGAL. A similar marker profile was observed in bladder cancer tissues. The current study demonstrated the efficiency of continuous elution electrophoresis. It offered two main advantages: (1) the separation of latent from active gelatinase isoforms with no interference from the TIMPs and (2) the identification and isolation in a single step of large amts. of urine gelatinase species with both high recovery and significant specific activities. Continuous-elution electrophoresis can be used for

correlation with clin. events of bladder cancer diagnosis and prognosis.
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 59 OF 60 MEDLINE on STN DUPLICATE 30
ACCESSION NUMBER: 1999402556 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10475571
TITLE: Neutrophil gelatinase-associated lipocalin in normal and neoplastic human tissues. Cell type-specific pattern of expression.
AUTHOR: Friedl A; Stoesz S P; Buckley P; Gould M N
CORPORATE SOURCE: Department of Pathology and Laboratory Medicine, Madison, WI 53792, USA.
CONTRACT NUMBER: P30-CA54174 (NCI)
P50-CA58183 (NCI)
R01-CA58328 (NCI)
+
SOURCE: The Histochemical journal, (1999 Jul) Vol. 31, No. 7, pp. 433-41.
Journal code: 0163161. ISSN: 0018-2214.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199910
ENTRY DATE: Entered STN: 14 Oct 1999
Last Updated on STN: 3 Mar 2000
Entered Medline: 7 Oct 1999
ED Entered STN: 14 Oct 1999
Last Updated on STN: 3 Mar 2000
Entered Medline: 7 Oct 1999
AB Neutrophil gelatinase-associated lipocalin (NGAL) has recently been identified in myeloperoxidase-negative neutrophil granules. Members of the lipocalin family are thought to bind and transport small lipophilic molecules such as retinoids and roles in cell regulation have been proposed. Recently, NGAL has also been demonstrated in the colonic mucosa in certain pathologic conditions. The aim of this study was to examine the distribution of NGAL in normal and neoplastic tissues by immunohistochemistry. Interestingly, NGAL was found in a variety of normal and pathological human tissues. A cell type-specific pattern of expression was seen in bronchus, stomach, small intestine, pancreas, kidney, prostate gland, and thymus. The comparative analysis of the putative rat homologue neu-related lipocalin showed a very similar pattern of expression with the exception of pancreas and kidney. Neoplastic human tissues showed a very heterogeneous expression of NGAL protein. High NGAL levels were found in adenocarcinomas of lung, colon and pancreas. In contrast, renal cell carcinomas of various subtypes and prostate cancers contained low NGAL levels. Lymphomas and thymic tumours were negative for NGAL immuno-labeling. Knowledge about the location of NGAL in normal cells and in disease states provides the first clues towards understanding its biological function.

L2 ANSWER 60 OF 60 MEDLINE on STN DUPLICATE 31
ACCESSION NUMBER: 96053553 MEDLINE
DOCUMENT NUMBER: PubMed ID: 7554268
TITLE: A sandwich enzyme immunoassay for the determination of neutrophil lipocalin in body fluids.
AUTHOR: Blaser J; Triebel S; Tschesche H
CORPORATE SOURCE: Faculty of Chemistry, Department of Biochemistry, University of Bielefeld, Germany.
SOURCE: Clinica chimica acta; international journal of clinical chemistry, (1995 Mar 31) Vol. 235, No. 2, pp. 137-45.
Journal code: 1302422. ISSN: 0009-8981.

PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199511
ENTRY DATE: Entered STN: 27 Dec 1995
Last Updated on STN: 27 Dec 1995
Entered Medline: 20 Nov 1995

ED Entered STN: 27 Dec 1995
Last Updated on STN: 27 Dec 1995
Entered Medline: 20 Nov 1995

AB Human neutrophil lipocalin was purified from human buffycoat. A polyclonal antibody was obtained by immunisation of rabbits. The antibody reacted with the free lipocalin as well as with the PMNL-gelatinase bound protein. This antibody was used to establish a sensitive sandwich-ELISA for the determination of the protein in body fluids using the biotin/streptavidin system. The mean intra-assay C.V. was 2.3% and the mean inter-assay C.V. 6.7%. The recovery in human plasma was determined to be 98.8%. The ELISA allowed the determination of the protein in the concentration range 0.2-25 micrograms/l. Measurement of the neutrophil lipocalin concentration showed that human plasma of healthy donors contained 9.7 +/- 81 micrograms/l (n = 122) and that the concentrations in serum were significantly higher (P < 0.001) with 133 +/- 90 micrograms/l (n = 122). Neutrophil lipocalin was also found in the urine of healthy donors (8.1 micrograms/l; n = 9). Very high concentrations of this lipocalin were found in the synovial fluids of patients suffering from inflammatory rheumatoid arthritis (1.7 +/- 1.4 mg/l; n = 37).

=> d his

(FILE 'HOME' ENTERED AT 13:00:18 ON 21 MAY 2007)

FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE' ENTERED AT 13:00:31 ON 21 MAY 2007
L1 132 S (NGAL OR (NEUTROPHIL(3A)LIPOCALIN) OR HNL OR 24P3 OR ONCOGENE
L2 60 DUP REM L1 (72 DUPLICATES REMOVED)

Connecting via Winsock to STN

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LOGINID:SSPTACEF1641

PASSWORD:
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NEWS 1		Web Page for STN Seminar Schedule - N. America
NEWS 2	JAN 08	CHEMLIST enhanced with New Zealand Inventory of Chemicals
NEWS 3	JAN 16	CA/CAplus Company Name Thesaurus enhanced and reloaded
NEWS 4	JAN 16	IPC version 2007.01 thesaurus available on STN
NEWS 5	JAN 16	WPIDS/WPINDEX/WPIX enhanced with IPC 8 reclassification data
NEWS 6	JAN 22	CA/CAplus updated with revised CAS roles
NEWS 7	JAN 22	CA/CAplus enhanced with patent applications from India
NEWS 8	JAN 29	PHAR reloaded with new search and display fields
NEWS 9	JAN 29	CAS Registry Number crossover limit increased to 300,000 in multiple databases
NEWS 10	FEB 15	PATDPASPC enhanced with Drug Approval numbers
NEWS 11	FEB 15	RUSSIAPAT enhanced with pre-1994 records
NEWS 12	FEB 23	KOREAPAT enhanced with IPC 8 features and functionality
NEWS 13	FEB 26	MEDLINE reloaded with enhancements
NEWS 14	FEB 26	EMBASE enhanced with Clinical Trial Number field
NEWS 15	FEB 26	TOXCENTER enhanced with reloaded MEDLINE
NEWS 16	FEB 26	IFICDB/IFIPAT/IFIUDB reloaded with enhancements
NEWS 17	FEB 26	CAS Registry Number crossover limit increased from 10,000 to 300,000 in multiple databases
NEWS 18	MAR 15	WPIDS/WPIX enhanced with new FRAGHITSTR display format
NEWS 19	MAR 16	CASREACT coverage extended
NEWS 20	MAR 20	MARPAT now updated daily
NEWS 21	MAR 22	LWPI reloaded
NEWS 22	MAR 30	RDISCLOSURE reloaded with enhancements
NEWS 23	APR 02	JICST-EPLUS removed from database clusters and STN
NEWS 24	APR 30	GENBANK reloaded and enhanced with Genome Project ID field
NEWS 25	APR 30	CHEMCATS enhanced with 1.2 million new records
NEWS 26	APR 30	CA/CAplus enhanced with 1870-1889 U.S. patent records
NEWS 27	APR 30	INPADOC replaced by INPADOCDB on STN
NEWS 28	MAY 01	New CAS web site launched
NEWS 29	MAY 08	CA/CAplus Indian patent publication number format defined
NEWS 30	MAY 14	RDISCLOSURE on STN Easy enhanced with new search and display fields
NEWS 31	MAY 21	BIOSIS reloaded and enhanced with archival data
NEWS 32	MAY 21	TOXCENTER enhanced with BIOSIS reload
NEWS 33	MAY 21	CA/CAplus enhanced with additional kind codes for German patents

NEWS EXPRESS NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8

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=> fil .bio
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'MEDLINE' ENTERED AT 13:00:31 ON 21 MAY 2007

FILE 'BIOSIS' ENTERED AT 13:00:31 ON 21 MAY 2007
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=> s (ngal OR (neutrophil(3a)lipocalin) OR hnl OR 24p3 OR oncogene-24p3
)(10a)(kidney OR renal OR arf OR urine OR urinary)
L1          132 (NGAL OR (NEUTROPHIL(3A) LIPOCALIN) OR HNL OR 24P3 OR ONCOGENE-2
                4P3 )(10A)(KIDNEY OR RENAL OR ARF OR URINE OR URINARY)

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2            60 DUP REM L1 (72 DUPLICATES REMOVED)

=> d ibib ed abs l2 1-60

L2   ANSWER 1 OF 60  CAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2007:175469  CAPLUS
DOCUMENT NUMBER:          146:201591
TITLE:                    Detection of NGAL in chronic renal
                          disease
INVENTOR(S):              Barasch, Jonathan Matthew; Devarajan, Prasad;
                          Nickolas, Thomas L.; Mori, Kiyoshi
PATENT ASSIGNEE(S):       USA
SOURCE:                   U.S. Pat. Appl. Publ., 14pp., Cont.-in-part of U.S.
                          Ser. No. 96,113.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   2
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
     US 2007037232         A1    20070215    US 2005-374285          20051013
     US 2005272101         A1    20051208    US 2005-96113           20050331
     WO 2007044994         A2    20070419    WO 2006-US40720         20061013
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
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KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,
MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS,
RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM

WO 2007047458 A2 20070426 WO 2006-US40132 20061013
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
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KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,
MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS,
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RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2005-96113 A2 20050331
US 2004-577662P P 20040607
US 2005-374285 A 20051013

ED Entered STN: 16 Feb 2007

AB Methods of assessing the ongoing kidney status in a subject afflicted with chronic renal failure (CRF) by detecting the quantity of Neutrophil Gelatinase-Associated Lipocalin (NGAL) in fluid samples over time is disclosed. NGAL is a small secreted polypeptide that is protease resistant and consequently readily detected in the urine and serum as a result of chronic renal tubule cell injury. Incremental increases in NGAL levels in CRF patients over a prolonged period of time are diagnostic of worsening kidney disease. This increase in NGAL precedes and correlates with other indicators of worsening CRF, such as increased serum creatinine, increased urine protein secretion, and lower glomerular filtration rate (GFR). Proper detection of worsening (or improving, if treatment has been instituted) renal status over time, confirmed by pre- and post-treatment NGAL levels in the patient, can aid the clin. practitioner in designing and/or maintaining a proper treatment regimen to slow or stop the progression of CRF.

L2 ANSWER 2 OF 60 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2007280146 IN-PROCESS
DOCUMENT NUMBER: PubMed ID: 17342180
TITLE: Neutrophil gelatinase-associated lipocalin as the real-time indicator of active kidney damage.
AUTHOR: Mori K; Nakao K
CORPORATE SOURCE: 1Department of Medicine and Clinical Science, Kyoto University Graduate School of Medicine, Kyoto, Japan.
SOURCE: Kidney international, (2007 May) Vol. 71, No. 10, pp. 967-70. Electronic Publication: 2007-03-07: Journal code: 0323470. ISSN: 0085-2538.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-DATA-REVIEW; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 15 May 2007
Last Updated on STN: 15 May 2007

ED Entered STN: 15 May 2007
Last Updated on STN: 15 May 2007

AB Neutrophil gelatinase-associated lipocalin (Ngal, 24p3, SIP24, lipocalin

2, or siderocalin) was originally purified from neutrophils, but with unknown function. Recently, it was identified that Ngal activates nephron formation in the embryonic kidney, is rapidly and massively induced in renal failure and possesses kidney-protective activity. We would like to propose that blood, urine, and kidney Ngal levels are the real-time indicators of active kidney damage, rather than one of many markers of functional nephron number (as Forest Fire Theory). Ngal is a novel iron-carrier protein exerting pleiotropic actions including the upregulation of epithelial marker E-cadherin expression, opening an exciting field in cell biology.Kidney International (2007) 71, 967-970. doi:10.1038/sj.ki.5002165; published online 7 March 2007.

L2 ANSWER 3 OF 60 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2007126926 IN-PROCESS
DOCUMENT NUMBER: PubMed ID: 17301189
TITLE: Role of protein C in renal dysfunction after polymicrobial sepsis.
AUTHOR: Gupta Akanksha; Berg David T; Gerlitz Bruce; Sharma Ganesh R; Syed Samreen; Richardson Mark A; Sandusky George; Heuer Josef G; Galbreath Elizabeth J; Grinnell Brian W
CORPORATE SOURCE: Biotechnology Discovery Research, Eli-Lilly Research Laboratories, Lilly Corporate Center, 355 East Merrill Street, DC# 0434, Lilly & Company, Indianapolis, Indiana 462225, USA.
SOURCE: Journal of the American Society of Nephrology : JASN, (2007 Mar) Vol. 18, No. 3, pp. 860-7. Electronic Publication: 2007-02-14.
Journal code: 9013836. ISSN: 1046-6673.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 1 Mar 2007
Last Updated on STN: 10 Apr 2007
ED Entered STN: 1 Mar 2007
Last Updated on STN: 10 Apr 2007
AB Protein C (PC) plays an important role in vascular function, and acquired deficiency during sepsis is associated with increased mortality in both animal models and in clinical studies. This study explored the consequences of PC suppression on the kidney in a cecal ligation and puncture model of polymicrobial sepsis. This study shows that a rapid drop in PC after sepsis is strongly associated with an increase in blood urea nitrogen, renal pathology, and expression of known markers of renal injury, including neutrophil gelatinase-associated lipocalin, CXCL1, and CXCL2. The endothelial PC receptor, which is required for the anti-inflammatory and antiapoptotic activity of activated PC (APC), was significantly increased after cecal ligation and puncture as well as in the microvasculature of human kidneys after injury. Treatment of septic animals with APC reduced blood urea nitrogen, renal pathology, and chemokine expression and dramatically reduced the induction of inducible nitric oxide synthase and caspase-3 activation in the kidney. The data demonstrate a clear link between acquired PC deficiency and renal dysfunction in sepsis and suggest a compensatory upregulation of the signaling receptor. Moreover, these data suggest that APC treatment may be effective in reducing inflammatory and apoptotic insult during sepsis-induced acute renal failure.

L2 ANSWER 4 OF 60 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2007053455 MEDLINE
DOCUMENT NUMBER: PubMed ID: 17229907
TITLE: Dual action of neutrophil gelatinase-associated lipocalin.
AUTHOR: Schmidt-Ott Kai M; Mori Kiyoshi; Li Jau Yi; Kalandadze Avtandil; Cohen David J; Devarajan Prasad; Barasch Jonathan

CORPORATE SOURCE: Department of Medicine, Columbia University College of Physicians and Surgeons, 630 West 168th Street, New York, NY 10032, USA.
CONTRACT NUMBER: DK-55388 (NIDDK)
DK-58872 (NIDDK)
SOURCE: Journal of the American Society of Nephrology : JASN, (2007 Feb) Vol. 18, No. 2, pp. 407-13. Electronic Publication: 2007-01-17. Ref: 40
Journal code: 9013836. ISSN: 1046-6673.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200704
ENTRY DATE: Entered STN: 30 Jan 2007
Last Updated on STN: 11 Apr 2007
Entered Medline: 10 Apr 2007

ED Entered STN: 30 Jan 2007
Last Updated on STN: 11 Apr 2007
Entered Medline: 10 Apr 2007

AB Neutrophil gelatinase-associated lipocalin (NGAL) is expressed and secreted by immune cells, hepatocytes, and renal tubular cells in various pathologic states. NGAL exerts bacteriostatic effects, which are explained by its ability to capture and deplete siderophores, small iron-binding molecules that are synthesized by certain bacteria as a means of iron acquisition. Consistently, NGAL deficiency in genetically modified mice leads to an increased growth of bacteria. However, growing evidence suggests effects of the protein beyond fighting microorganisms. NGAL acts as a growth and differentiation factor in multiple cell types, including developing and mature renal epithelia, and some of this activity is enhanced in the presence of siderophore:iron complexes. This has led to the hypothesis that eukaryotes might synthesize siderophore-like molecules that bind NGAL. Accordingly, NGAL-mediated iron shuttling between the extracellular and intracellular spaces may explain some of the biologic activities of the protein. Interest in NGAL has been sparked by the observation that NGAL is massively upregulated after renal tubular injury and may participate in limiting kidney damage. This review summarizes the current knowledge about the dual effects of NGAL as a siderophore:iron-binding protein and as a growth factor and examines the role of these effects in renal injury.

L2 ANSWER 5 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:29472 CAPLUS
TITLE: Neutrophil gelatinase-associated lipocalin (NGAL) correlations with cystatin C, serum creatinine and eGFR in patients with normal serum creatinine undergoing coronary angiography
AUTHOR(S): Bachorzewska-Gajewska, Hanna; Malyszko, Jolanta; Sitniewska, Ewa; Malyszko, Jacek S.; Dobrzycki, Slawomir
CORPORATE SOURCE: Department of Invasive Cardiology, Medical University, Bialystok, Pol.
SOURCE: Nephrology, Dialysis, Transplantation (2007), 22(1), 295-296
CODEN: NDTREA; ISSN: 0931-0509
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 10 Jan 2007

AB This study aims to investigate prospectively a novel marker of acute renal

injury in patients undergoing coronary angiog., as well as correlations between NGAL and other markers of kidney function: cystain C, eGFR and serum creatinine. Volume of contrast agent was not related to urinary and serum NGAL and cystatin C>. Serum creatinine correlated significantly with both serum and urinary NGAL. It is interesting that a rise in serum NGAL was observed as early as 2 h after coronary angiog. and lasted for 4 h. In urine, NGAL increased after 4 h and remained significantly elevated relative to baseline 8 h after the procedure. They found a rise in serum and urinary NGAL in samples taken as early as 2 h or at the first available sample after cardiopulmonary bypass in children who developed, as well as who never developed acute renal failure. Patients with ischemic heart disease often exhibit some degree of renal dysfunction due to concomitant diabetes, hypertension or congestive heart failure, despite normal serum creatinine. Studies have suggested that serum cystatin C may have advantages over serum creatinine for estimating GFR, however, with some limitations. This study confirmed that the increase of cystatin achieved a maximum at 24 h after the application of the contrast agent, and within 48 h, cystatin C decreased to the same level as before angiog.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 6 OF 60 MEDLINE on STN DUPLICATE 4

ACCESSION NUMBER: 2007239240 IN-PROCESS
DOCUMENT NUMBER: PubMed ID: 17360238
TITLE: Urinary neutrophil gelatinase-associated lipocalin (NGAL) is an early biomarker for renal tubulointerstitial injury in IgA nephropathy.
AUTHOR: Ding Hanlu; He Yani; Li Kailong; Yang Jurong; Li Xiaolin; Lu Rong; Gao Wenda
CORPORATE SOURCE: Department of Nephrology, Daping Hospital, The Third Military Medical University, Chongqing 40038, PR China.
SOURCE: Clinical immunology (Orlando, Fla.), (2007 May) Vol. 123, No. 2, pp. 227-34. Electronic Publication: 2007-03-13. Journal code: 100883537. ISSN: 1521-6616.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-DATA-REVIEW; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 24 Apr 2007
Last Updated on STN: 24 Apr 2007

ED Entered STN: 24 Apr 2007
Last Updated on STN: 24 Apr 2007

AB Renal tubulointerstitial injury plays an important role in the development of IgA nephropathy (IgAN), the most common form of glomerulonephritis. Few currently in use biomarkers can sensitively detect the earliest signs of renal tubular injury, hindering our efforts to launch preventive and therapeutic measures for this disorder in a timely manner. Neutrophil gelatinase-associated lipocalin (NGAL) is an acute phase protein that is rapidly released from not only neutrophils but also a variety of cell types upon inflammation and tissue injury. Its small molecular size and protease resistance could render it an excellent biomarker of renal injury in IgAN. In this study, we tested this hypothesis by measuring urinary levels of NGAL, creatinine and N-acetyl-beta-d-glucosaminidase (NAG) in 40 healthy individuals and 70 IgAN patients with various disease severities. The urinary NGAL levels and NGAL/creatinine values were significantly upregulated in Lee grade III IgAN patients, in correlation with progressive glomerular mesangial proliferation and tubulointerstitial injury. Compared with urinary NAG levels, the urinary NGAL levels elevated much more drastically and can be readily

detected even in Lee grade II IgAN patients when their NAG levels showed almost no change. Our findings suggest the promising use of urinary NGAL as an early biomarker for tubulointerstitial injury of IgA nephropathy and perhaps other types of renal disease in general.

L2 ANSWER 7 OF 60 MEDLINE on STN
ACCESSION NUMBER: 2007254559 IN-PROCESS
DOCUMENT NUMBER: PubMed ID: 17464130
TITLE: Diagnosis of acute kidney injury: from classic parameters to new biomarkers.
AUTHOR: Bonventre Joseph V
CORPORATE SOURCE: Renal Division, Brigham and Women's Hospital and Department of Medicine, Harvard Stem Cell Institute, Harvard Medical School and Harvard-Massachusetts Institute of Technology, Division of Health Sciences and Technology, Boston, Mass., USA.
SOURCE: Contributions to nephrology, (2007) Vol. 156, pp. 213-9. Journal code: 7513582. ISSN: 0302-5144.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-DATA-REVIEW; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 28 Apr 2007
Last Updated on STN: 28 Apr 2007
ED Entered STN: 28 Apr 2007
Last Updated on STN: 28 Apr 2007
AB A change in serum creatinine is the standard metric used to define and monitor the progression of acute kidney injury (AKI). This marker is inadequate for a number of reasons including the fact that changes in serum creatinine are delayed in time after kidney injury and hence creatinine is not a good indicator to use in order to target therapy in a timely fashion. There is an urgent need for early biomarkers for the diagnosis of AKI. There is also a need for biomarkers that will be predictive of outcome and which can be used to monitor therapy. There are a limited number of biomarkers that are being validated by a number of groups and from this list clinically useful reagents are likely to be derived over the next few years. In this article the status of 5 potential urinary biomarkers for AKI are discussed: kidney injury molecule-1, N-acetyl-Beta-D-glucosaminidase, neutrophil gelatinase-associated lipocalin, cystatin C, and interleukin-18. Considerable progress has been made although much continues to be needed to validate these markers for routine clinical use. Armed with these new tools the future will look much brighter for the patient with AKI as it is likely that early diagnosis and better predictors of outcome will lead to new therapies which can be introduced earlier in the course of disease.

L2 ANSWER 8 OF 60 MEDLINE on STN
ACCESSION NUMBER: 2007254558 IN-PROCESS
DOCUMENT NUMBER: PubMed ID: 17464129
TITLE: Emerging biomarkers of acute kidney injury.
AUTHOR: Devarajan Prasad
CORPORATE SOURCE: Nephrology and Hypertension, Cincinnati Children's Hospital Medical Center, University of Cincinnati, Cincinnati, Ohio, USA.
SOURCE: Contributions to nephrology, (2007) Vol. 156, pp. 203-12. Journal code: 7513582. ISSN: 0302-5144.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-DATA-REVIEW; IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 28 Apr 2007

Last Updated on STN: 28 Apr 2007
ED Entered STN: 28 Apr 2007
Last Updated on STN: 28 Apr 2007
AB Background: Acute kidney injury (AKI) is a major clinical problem with a rising incidence and high mortality rate. The lack of early biomarkers has resulted in an unacceptable delay in initiating therapies. Methods: Here we will update the reader on promising new blood and urinary biomarkers that have recently emerged through the application of innovative technologies such as functional genomics and proteomics to human and animal models of AKI. Results: The most promising biomarkers of AKI for clinical use include a plasma panel (NGAL and cystatin C) and a urine panel (NGAL, Il-18 and KIM-1). Conclusions: As they represent tandem biomarkers, it is likely that the AKI panels will be useful for timing the initial insult and assessing the duration and severity of AKI. Based on the differential expression of the biomarkers, it is also likely that the AKI panels will distinguish between the various types and etiologies of AKI. It will be important in future studies to validate the sensitivity and specificity of these biomarker panels in clinical samples from large cohorts and from multiple clinical situations.

L2 ANSWER 9 OF 60 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN
ACCESSION NUMBER: 2007158881 EMBASE
TITLE: Is serum NGAL an accurate marker of renal function in pediatric CKD?.
SOURCE: Nature Clinical Practice Nephrology, (2007) Vol. 3, No. 4, pp. 180. .
Refs: 1
ISSN: 1745-8323 E-ISSN: 1745-8331
PUBLISHER IDENT.: NCPNEPH0416
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 028 Urology and Nephrology
029 Clinical Biochemistry
LANGUAGE: English
ENTRY DATE: Entered STN: 19 Apr 2007
Last Updated on STN: 19 Apr 2007
ED Entered STN: 19 Apr 2007
Last Updated on STN: 19 Apr 2007
DATA NOT AVAILABLE FOR THIS ACCESSION NUMBER

L2 ANSWER 10 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2007:312572 BIOSIS
DOCUMENT NUMBER: PREV200700312616
TITLE: NGAL as a marker for renal injury in sepsis.
AUTHOR(S): Bangert, Kristian [Reprint Author]; Heslet, Lars; Ghiglione, Margarita; Uttenthal, Otto
CORPORATE SOURCE: AntibodyShop AS, Gentofte 2820, Denmark
SOURCE: Inflammation Research, (MAR 2007) Vol. 56, No. Suppl. 2, pp. S104-S105.
Meeting Info.: 7th World Congress on Trauma, Shock, Inflammation and Sepsis. Munich, GERMANY. March 13 -17, 2007.
ISSN: 1023-3830.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 16 May 2007
Last Updated on STN: 16 May 2007
ED Entered STN: 16 May 2007
Last Updated on STN: 16 May 2007

L2 ANSWER 11 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:258184 CAPLUS
TITLE: Kidney-specific proteins: markers for detection of renal dysfunction after cardiac surgery?
AUTHOR(S): Wolf, M. W.; Boldt, J.
CORPORATE SOURCE: Department of Anesthesiology and Intensive Care Medicine, Klinikum der Stadt Ludwigshafen, Ludwigshafen, D-67063, Germany
SOURCE: Clinical Research in Cardiology Supplements (2007), 2(Suppl.), S103-S107
CODEN: CRCSC5; ISSN: 1861-0706
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 09 Mar 2007
AB After cardiopulmonary bypass, cardiac surgery patients often suffer from renal injury. Clinicians rely on urine output, serum creatinine, and creatinine clearance as routine measures to evaluate renal function. Kidney-specific proteins such as neutrophil gelatinase-associated lipocalin (NGAL), neutral endopeptidase (NEP), retinol-binding protein (RBP), alpha1-microglobulin, N-acetyl-beta-D-glucosaminidase or gluthatione-S-transferases (GSTs) have been studied to define new measures to detect even subclin. or transient compromised renal integrity after cardiac surgery. It has been shown that kidney-specific proteins may be a useful tool for detecting impaired renal function in this situation, and may be superior to conventional renal function tests. Large controlled trials, however, will be necessary to determine the predictive value of kidney-specific proteins.
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 12 OF 60 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 2007160438 MEDLINE
DOCUMENT NUMBER: PubMed ID: 17072653
TITLE: Serum neutrophil gelatinase-associated lipocalin as a marker of renal function in children with chronic kidney disease.
AUTHOR: Mitsnefes Mark M; Kathman Thelma S; Mishra Jaya; Kartal Janis; Khoury Philip R; Nickolas Thomas L; Barasch Jonathan; Devarajan Prasad
CORPORATE SOURCE: Divisions of Nephrology and Hypertension, Cincinnati Children's Hospital Medical Center, University of Cincinnati School of Medicine, MLC 7022, 3333 Burnet Avenue, Cincinnati, OH, 45229-3039, USA.
CONTRACT NUMBER: K12 HD28827 (NICHD)
K23 HL-69296 (NHLBI)
P50-DK52612 (NIDDK)
R01 DK-58872 (NIDDK)
R01-DK53289 (NIDDK)
R01-DK55388 (NIDDK)
R21-DK070163 (NIDDK)
SOURCE: Pediatric nephrology (Berlin, Germany), (2007 Jan) Vol. 22, No. 1, pp. 101-8. Electronic Publication: 2006-10-27.
Journal code: 8708728. ISSN: 0931-041X.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200704
ENTRY DATE: Entered STN: 17 Mar 2007

Last Updated on STN: 4 Apr 2007
Entered Medline: 3 Apr 2007

ED Entered STN: 17 Mar 2007
Last Updated on STN: 4 Apr 2007
Entered Medline: 3 Apr 2007

AB Very few biomarkers exist for monitoring chronic kidney disease (CKD). We have recently shown that serum neutrophil gelatinase-associated lipocalin (NGAL) represents a novel biomarker for early identification of acute kidney injury. In this study, we hypothesized that serum NGAL may also represent a biomarker for the quantitation of CKD. Forty-five children with CKD stages 2-4 were prospectively recruited for measurement of serum NGAL, serum cystatin C, glomerular filtration rate (GFR) by Ioversol clearance, and estimated GFR (eGFR) by Schwartz formula. Serum NGAL significantly correlated with cystatin C (r=0.74, P<0.000). Both NGAL and cystatin C significantly correlated with measured GFR (r=0.62, P<0.000; and r=0.71, P<0.000, respectively) as well as with eGFR (r=0.66, P<0.000 and r=0.59, P<0.000, respectively). At GFR levels of >or=30 ml/min per 1.73 m(2), serum NGAL, cystatin C, and eGFR were all significantly correlated with measured GFR. However, in subjects with lower GFRs (<30 ml/min per 1.73 m(2)), serum NGAL levels correlated best with measured GFR (r=0.62), followed by cystatin C (r=0.41). We conclude that (a) both serum NGAL and cystatin C may prove useful in the quantitation of CKD, and (b) by correlation analysis, NGAL outperforms cystatin C and eGFR at lower levels of measured GFR.

L2 ANSWER 13 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:627476 CAPLUS
DOCUMENT NUMBER: 145:81153
TITLE: Determination of neutrophil gelatinase-associated lipocalin (NGAL) as a diagnostic marker for renal disorders
INVENTOR(S): Uttenthal, Lars Otto; Juanes, Margarita Ghiglione; Bangert, Kristian
PATENT ASSIGNEE(S): Antibodyshop A/S, Den.
SOURCE: PCT Int. Appl., 42 pp., which
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006066587	A1	20060629	WO 2005-DK806	20051220
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.: US 2004-637503P P 20041220
US 2005-719307P P 20050921

ED Entered STN: 29 Jun 2006

AB Methods for diagnosing renal disorders by measuring human neutrophil gelatinase-associated lipocalin (NGAL) are provided.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 14 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:515876 CAPLUS
DOCUMENT NUMBER: 145:26562
TITLE: Muteins of human neutrophil gelatinase-associated lipocalin with affinity for cytotoxic T lymphocyte-associated antigen (CTLA-4) and their use for treatment of cancer, infectious, or (auto)immune diseases
INVENTOR(S): Matschiner, Gabriele; Hohlbaum, Andreas; Schlehuber, Steffen; Poehlchen, Martin; Skerra, Arne
PATENT ASSIGNEE(S): Pieris Proteolab A.-G., Germany
SOURCE: PCT Int. Appl., 160 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006056464	A2	20060601	WO 2005-EP12640	20051125
WO 2006056464	A3	20070118		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.:		
US 2004-631200P	P	20041126
US 2004-631202P	P	20041126
US 2004-631227P	P	20041126
US 2004-631253P	P	20041126
US 2004-522970P	P	20041129
US 2005-679811P	P	20050511
US 2005-680067P	P	20050511

OTHER SOURCE(S): MARPAT 145:26562
ED Entered STN: 02 Jun 2006
AB The present invention relates to compds. with affinity for the cytotoxic T lymphocyte associated antigen (CTLA-4), wherein the compound exhibits a synergistic mode of action in that the the compound (a) increases T cell priming or T cell expansion or the generation of memory T cells by blocking of CTLA-4, and (b) enhances effector T cell activity in tumor tissue or lymphoid tissue by blocking of CTLA-4. The compound of the invention can be a protein, a small organic mol., a peptide, or a nucleic acid. The invention also relates to muteins derived from a protein selected from the group consisting of human neutrophil gelatinase-associated lipocalin (hNGAL), rat α2-microglobulin-related protein (A2m) and mouse 24p3/uterocalin (24p3). The muteins have binding specificity for CTLA-4, wherein said mutein: (a) comprises amino acid replacements at at least one of the sequence position corresponding to sequence positions 33-54, 66-83, 94-106, and 123-136 of hNGAL, and (b) binds human CTLA-4 with a KD of 50 nM or less. The serum half-life and pharmacokinetics of hNGAL muteins are improved by fusions with albumin-binding domains and/or by cysteine residue mutants. The invention also relates to a pharmaceutical composition comprising such a compound or mutein as well as to

various pharmaceutical uses of such a compound or mutein, for example, for the prevention and/or treatment of cancer, an auto-immune disease, or an infectious disease.

L2 ANSWER 15 OF 60 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 2006509788 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16868980
TITLE: Urinary neutrophil gelatinase-associated lipocalin as a biomarker of nephritis in childhood-onset systemic lupus erythematosus.
AUTHOR: Brunner Hermine I; Mueller Michelle; Rutherford Cynthia; Passo Murray H; Witte David; Grom Alexei; Mishra Jaya; Devarajan Prasad
CORPORATE SOURCE: Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio 45229-3039, USA.. hermine.brunner@cchmc.org
CONTRACT NUMBER: P50-DK-52612 (NIDDK)
P60-AR-47784 (NIAMS)
R01-DK-53289 (NIDDK)
R21-DK-070163 (NIDDK)
SOURCE: Arthritis and rheumatism, (2006 Aug) Vol. 54, No. 8, pp. 2577-84.
Journal code: 0370605. ISSN: 0004-3591.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200609
ENTRY DATE: Entered STN: 29 Aug 2006
Last Updated on STN: 20 Sep 2006
Entered Medline: 19 Sep 2006
ED Entered STN: 29 Aug 2006
Last Updated on STN: 20 Sep 2006
Entered Medline: 19 Sep 2006
AB OBJECTIVE: Renal involvement in systemic lupus erythematosus (SLE) is associated with poor prognosis. Currently available renal biomarkers are relatively insensitive and nonspecific for diagnosing SLE nephritis. Previous research suggests that neutrophil gelatinase-associated lipocalin (NGAL) is a high-quality renal biomarker of acute kidney injury, while its usefulness in SLE is unclear. We undertook this study to determine the relationship between urinary NGAL excretion and SLE disease activity or damage, with a focus on nephritis. METHODS: A cohort of 35 patients diagnosed as having SLE prior to age 16 years (childhood-onset SLE) was assessed for disease activity (using the Systemic Lupus Erythematosus Disease Activity Index 2000 update) and damage (using the Systemic Lupus International Collaborating Clinics/American College of Rheumatology SLE Damage Index) in a double-blind, cross-sectional study. Information on current markers of renal function and disease was obtained and compared with NGAL levels (ng/mg of urinary creatinine) measured by enzyme-linked immunosorbent assay. Eight children with juvenile idiopathic arthritis (JIA) served as controls. RESULTS: NGAL levels did not differ with the age, weight, height, sex, or race of the patients. Patients with childhood-onset SLE had significantly higher NGAL levels than did those with JIA ($P < 0.0001$). NGAL levels were strongly to moderately correlated with renal disease activity and renal damage (Spearman's $r >/= 0.47$, $P < 0.0001$ for both comparisons), but not with extrarenal disease activity or extrarenal damage. NGAL levels of >0.6 ng/mg urinary creatinine were 90% sensitive and 100% specific for identifying childhood-onset SLE patients with biopsy-proven nephritis. CONCLUSION: Urinary NGAL is a promising potential biomarker of childhood-onset SLE. nephritis. The results of the current study require validation in a

larger cohort to more accurately delineate urinary NGAL excretion in relation to the diverse SLE phenotypes.

L2 ANSWER 16 OF 60 MEDLINE on STN DUPLICATE 7
ACCESSION NUMBER: 2006407131 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16827865
TITLE: Urine NGAL and IL-18 are predictive biomarkers for delayed graft function following kidney transplantation.
AUTHOR: Parikh C R; Jani A; Mishra J; Ma Q; Kelly C; Barasch J; Edelstein C L; Devarajan P
CORPORATE SOURCE: Nephrology, Yale University, New Haven, Connecticut, USA.
CONTRACT NUMBER: K23-DK064689 (NIDDK)
P01-DK34039 (NIDDK)
P50-DK52612 (NIDDK)
R01-DK53289 (NIDDK)
R01-DK55388 (NIDDK)
R01-DK56851 (NIDDK)
R01-DK58872 (NIDDK)
R21-DK070163 (NIDDK)
SOURCE: American journal of transplantation : official journal of the American Society of Transplantation and the American Society of Transplant Surgeons, (2006 Jul) Vol. 6, No. 7, pp. 1639-45.
Journal code: 100968638. ISSN: 1600-6135.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200612
ENTRY DATE: Entered STN: 11 Jul 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 7 Dec 2006
ED Entered STN: 11 Jul 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 7 Dec 2006
AB Delayed graft function (DGF) due to tubule cell injury frequently complicates deceased donor kidney transplants. We tested whether urinary neutrophil gelatinase-associated lipocalin (NGAL) and interleukin-18 (IL-18) represent early biomarkers for DGF (defined as dialysis requirement within the first week after transplantation). Urine samples collected on day 0 from recipients of living donor kidneys (n = 23), deceased donor kidneys with prompt graft function (n = 20) and deceased donor kidneys with DGF (n = 10) were analyzed in a double blind fashion by ELISA for NGAL and IL-18. In patients with DGF, peak postoperative serum creatinine requiring dialysis typically occurred 2-4 days after transplant. Urine NGAL and IL-18 values were significantly different in the three groups on day 0, with maximally elevated levels noted in the DGF group ($p < 0.0001$). The receiver-operating characteristic curve for prediction of DGF based on urine NGAL or IL-18 at day 0 showed an area under the curve of 0.9 for both biomarkers. By multivariate analysis, both urine NGAL and IL-18 on day 0 predicted the trend in serum creatinine in the posttransplant period after adjusting for effects of age, gender, race, urine output and cold ischemia time ($p < 0.01$). Our results indicate that urine NGAL and IL-18 represent early, predictive biomarkers of DGF.

L2 ANSWER 17 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2006:339013 BIOSIS
DOCUMENT NUMBER: PREV200600337572

TITLE: Testosterone supplements exacerbate renal injury in hypertensive rats with reduced renal mass.
AUTHOR(S): Iliescu, Radu [Reprint Author]; Yanes, Licy L.; Vera, Trinity; Sartori-Valinotti, Julio C.; Williams, Jason; Stec, David E.; Reckelhoff, Jane F.
CORPORATE SOURCE: Univ Mississippi, Med Ctr, Dept Physiol and Biophys, Jackson, MS 39216 USA
SOURCE: FASEB Journal, (MAR 7 2006) Vol. 20, No. 5, Part 2, pp. A1192.
Meeting Info.: Experimental Biology 2006 Meeting. San Francisco, CA, USA. April 01 -05, 2006. Amer Assoc Anatomists; Amer Physiol Soc; Amer Soc Biochem & Mol Biol; Amer Soc Investigat Pathol; Amer Soc Nutr; Amer Soc Pharmacol & Expt Therapeut.
CODEN: FAJOEC. ISSN: 0892-6638.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 5 Jul 2006
Last Updated on STN: 5 Jul 2006
ED Entered STN: 5 Jul 2006
Last Updated on STN: 5 Jul 2006
AB Men with end-stage renal disease are frequently given androgen supplements to improve sexual function. We have previously shown that endogenous androgens contribute to hypertension and renal injury in various animal models. We hypothesized that testosterone supplements exacerbate hypertension and renal injury in rats with reduced renal mass (RRM). Sprague Dawley rats were subjected to surgical ablation of 80% of the renal mass or left intact. The rats were then given 8% NaCl diet for 6 weeks. Testosterone was administered in Silastic pellets throughout the study to groups of rats with intact or ablated kidneys. Arterial pressure was continuously monitored by telemetry. Renal injury was assessed by measurements of urinary protein and neutrophil gelatinase-associated lipocalin (NGAL) excretion. RRM developed hypertension on the high salt diet as compared with intact rats (154 +/- 12 vs 111 +/- 3mmHg). Testosterone supplementation did not alter the course of hypertension in RRM, nor increased blood pressure in intact rats (156 +/- 12 vs 113 +/- 8mmHg, RRM vs intact). Starting at week 2 until the end of the study, testosterone-supplemented RRM consistently excreted 20 to 30% more protein than untreated RRM. Urinary levels of NGAL, an index of tubulointerstitial injury, were also higher in RRM as compared to intact rats and were further augmented by testosterone supplements. Our data indicate that testosterone supplements worsen renal injury in a model of chronic hypertensive renal disease without affecting blood pressure.

L2 ANSWER 18 OF 60 MEDLINE on STN DUPLICATE 8
ACCESSION NUMBER: 2006478675 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16773412
TITLE: Urinary neutrophil gelatinase-associated lipocalcin in D+HUS: a novel marker of renal injury.
AUTHOR: Trachtman Howard; Christen Erica; Cnaan Avital; Patrick Jilma; Mai Volker; Mishra Jaya; Jain Aditya; Bullington Nathan; Devarajan Prasad
CORPORATE SOURCE: Department of Pediatrics (Division of Nephrology), Schneider Children's Hospital of the North Shore-Long Island Jewish Medical Center, New Hyde Park, New York, NY, USA. (Investigators of the HUS-SYNSORB Pk Multicenter Clinical Trial). trachtma@lij.edu
CONTRACT NUMBER: DK52147 (NIDDK)
P50-DK52612 (NIDDK)
R01-DK53289 (NIDDK)
R21-DK070163 (NIDDK)
SOURCE: Pediatric nephrology (Berlin, Germany), (2006 Jul) Vol. 21,

No. 7, pp. 989-94. Electronic Publication: 2006-06-01.
Journal code: 8708728. ISSN: 0931-041X.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(MULTICENTER STUDY)
(RANDOMIZED CONTROLLED TRIAL)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(CLINICAL TRIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200611
ENTRY DATE: Entered STN: 15 Aug 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 30 Nov 2006
ED Entered STN: 15 Aug 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 30 Nov 2006
AB BACKGROUND: Diarrhea-associated hemolytic uremic syndrome (D+HUS) causes acute renal failure. Neutrophil gelatinase-associated lipocalcin (NGAL) is an early indicator of kidney injury.
OBJECTIVE: To determine if urinary NGAL excretion is a biomarker of severe renal injury and predicts the need for dialysis in D+HUS. METHODS: Patients were randomly selected from among participants in the SYNSORB Pk trial. Urine samples were collected daily if available during the first week of hospitalization. NGAL levels were determined by ELISA. RESULTS: 34 children, age 5.9+/-3.9 yr, were studied; ten (29%) required dialysis. Patients were categorized based on urinary NGAL concentration within five days of hospitalization - <200 ng/ml and >or=200 ng/ml. Twenty patients (58%) had increased urinary NGAL excretion. The severity of D+HUS at enrollment was similar in the two groups. However, children with increased urinary NGAL levels had higher peak BUN and creatinine concentrations (P<0.01) and required dialysis more often, 9/20 versus 1/14 (P=0.024) compared to children with normal excretion. CONCLUSION: The majority of patients with D+HUS have renal tubular epithelial injury, as evidenced by elevated urinary NGAL excretion. Urinary NGAL levels below 200 ng/ml within five days of hospitalization may be an adjunctive marker that defines less severe renal involvement.

L2 ANSWER 19 OF 60 MEDLINE on STN DUPLICATE 9
ACCESSION NUMBER: 2006388636 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16528543
TITLE: Kidney NGAL is a novel early marker of acute injury following transplantation.
AUTHOR: Mishra Jaya; Ma Qing; Kelly Caitlin; Mitsnefes Mark; Mori Kiyoshi; Barasch Jonathan; Devarajan Prasad
CORPORATE SOURCE: Nephrology and Hypertension, Cincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine, Cincinnati, OH, USA.
CONTRACT NUMBER: DK-58872 (NIDDK)
P50-DK52612 (NIDDK)
R01-DK53289 (NIDDK)
R01-DK55388 (NIDDK)
R21-DK070163 (NIDDK)
SOURCE: Pediatric nephrology (Berlin, Germany), (2006 Jun) Vol. 21, No. 6, pp. 856-63. Electronic Publication: 2006-04-14.
Journal code: 8708728. ISSN: 0931-041X.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English

FILE SEGMENT: Priority Journals
ENTRY MONTH: 200611
ENTRY DATE: Entered STN: 30 Jun 2006
Last Updated on STN: 15 Nov 2006
Entered Medline: 14 Nov 2006

ED Entered STN: 30 Jun 2006
Last Updated on STN: 15 Nov 2006
Entered Medline: 14 Nov 2006

AB Acute kidney injury secondary to ischemia-reperfusion in renal allografts often results in delayed graft function. We tested the hypothesis that expression of neutrophil gelatinase-associated lipocalin (NGAL) is an early marker of acute kidney injury following transplantation. Sections from paraffin-embedded protocol biopsy specimens obtained at approximately one hour of reperfusion after transplantation of 13 cadaveric (CAD) and 12 living-related (LRD) renal allografts were examined by immunohistochemistry for expression of NGAL. The staining intensity was correlated with cold ischemia time, peak post-operative serum creatinine, and dialysis requirement. There were no differences between the LRD and CAD groups in age, gender or preoperative serum creatinine. Using a scoring system of 0 (no staining) to 3 (most intense staining), NGAL expression was significantly increased in CAD specimens (2.3+/-0.8 versus 0.8+/-0.7 in LRD, $p<0.001$). There was a strong correlation between NGAL staining intensity and cold ischemia time ($R=0.87$, $p<0.001$). Importantly, NGAL staining in these early CAD biopsies was strongly correlated with peak postoperative serum creatinine, which occurred days later ($R=0.86$, $p<0.001$). Four patients developed delayed graft function requiring dialysis during the first week posttransplantation; all of these patients displayed the most intense NGAL staining in their first protocol biopsies. We conclude that NGAL staining intensity in early protocol biopsies represents a novel predictive biomarker of acute kidney injury following transplantation.

L2 ANSWER 20 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

ACCESSION NUMBER: 2007:124532 BIOSIS
DOCUMENT NUMBER: PREV200700123751
TITLE: NGAL is an early predictive biomarker of acute kidney injury following cardiac catheterization with contrast administration in children.
AUTHOR(S): Hirsch, Russel [Reprint Author]; Dent, Catherine; Pfriem, Holly; Allen, Janene; Mishra, Jaya; Ma, Qing; Kelly, Charles; Beekman, Robert; Mitsnefes, Mark; Devarajan, Prasad
CORPORATE SOURCE: Childrens Hosp, Med Ctr, Cincinnati, OH 45229 USA
SOURCE: Circulation, (OCT 31 2006) Vol. 114, No. 18, Suppl. S, pp. 695.
Meeting Info.: 79th Annual Scientific Session of the American-Heart-Association. Chicago, IL, USA. November 12 -15, 2006. Amer Heart Assoc.
CODEN: CIRCAZ. ISSN: 0009-7322.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 22 Feb 2007
Last Updated on STN: 22 Feb 2007

ED Entered STN: 22 Feb 2007
Last Updated on STN: 22 Feb 2007

AB Introduction: Acute kidney injury (AKI) occurs in about 10% of pts who receive contrast agents. However, diagnosis using serum creatinine may be delayed several days. We hypothesized that neutrophil gelatinase-associated lipocalin (NGAL), produced in tubule cells in response to injury, is a predictive biomarker of AKI after contrast administration. Methods: We prospectively enrolled 91 children (mean age

84mo, range 0-216) with congenital heart disease who were undergoing elective cardiac catheterization with contrast administration (CC). Serial urine and serum samples, obtained at baseline and at multiple time points after CC were analyzed in a double blind fashion by ELISA for NGAL expression. AKI, defined as a 50% increase in serum creatinine from baseline, was the primary end-point. Results: AKI was found in 11 pts (12%), but diagnosis using serum creatinine was only possible 12-24 hours after CC. In contrast, significant elevation of urine and serum concentration of NGAL was noted early after CC in those 11 pts. Urine and serum concentration of NGAL did not vary from baseline in the remaining pts without AKI (Table). With a cut-off value of 100ng/ml, the 6 hour urine NGAL revealed the highest sensitivity and specificity (85% and 98% respectively) in predicting AKI. The biomarker properties were comparably excellent for both the 2 and 6 hour serum NGAL measurements (82% sensitivity; 100% specificity). By multivariate analysis, NGAL concentrations in the urine (R-2=0.52, p<0.0001) and serum (R-2 =0.4, p<0.0001) at the 2 hour time point were found to be powerful independent predictors of AKI. Pt demographics and contrast volume were not predictive of AKI. Conclusion: Elevation of NGAL concentration in urine and serum are early predictors of AKI following cardiac catheterization and contrast administration. Using this biomarker of renal dysfunction, earlier therapeutic intervention may be possible, particularly in those pts at higher risk for renal insufficiency.[GRAPHICS]rate for the developmental delay in infants with CHD. Longitudinal follow-up study in a larger population is needed to elucidate the significance of chronic hypoxia on impaired neuroanatomical development.

L2 ANSWER 21 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

ACCESSION NUMBER: 2006:278903 BIOSIS
DOCUMENT NUMBER: PREV200600275924
TITLE: Neutrophil gelatinase-associated lipocalin in acute renal failure.
AUTHOR(S): de Broe, Marc
SOURCE: Kidney International, (FEB 2006) Vol. 69, No. 4, pp. 648. CODEN: KDYIA5. ISSN: 0085-2538.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 17 May 2006
Last Updated on STN: 17 May 2006
ED Entered STN: 17 May 2006
Last Updated on STN: 17 May 2006

L2 ANSWER 22 OF 60 MEDLINE on STN DUPLICATE 10

ACCESSION NUMBER: 2006546976 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16931980
TITLE: Association between increases in urinary neutrophil gelatinase-associated lipocalin and acute renal dysfunction after adult cardiac surgery.
AUTHOR: Wagener Gebhard; Jan Michael; Kim Mihwa; Mori Kiyoshi; Barasch Jonathan M; Sladen Robert N; Lee H Thomas
CORPORATE SOURCE: Department of Anesthesiology, Columbia University, NY 10032-3784, USA.
SOURCE: Anesthesiology, (2006 Sep) Vol. 105, No. 3, pp. 485-91. Journal code: 1300217. ISSN: 0003-3022.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200609
ENTRY DATE: Entered STN: 16 Sep 2006

Last Updated on STN: 30 Sep 2006
Entered Medline: 29 Sep 2006

ED Entered STN: 16 Sep 2006
Last Updated on STN: 30 Sep 2006
Entered Medline: 29 Sep 2006

AB BACKGROUND: Acute renal dysfunction (ARD) and subsequent acute renal failure after cardiac surgery are associated with high mortality and morbidity. Early therapeutic or preventive intervention is hampered by the lack of an early biomarker for acute renal injury. Recent studies showed that urinary neutrophil gelatinase-associated lipocalin (NGAL or lipocalin 2) is up-regulated early (within 1-3 h) after murine renal injury and in pediatric ARD after cardiac surgery. The authors hypothesized that postoperative urinary NGAL concentrations are increased in adult patients developing ARD after cardiac surgery compared with patients without ARD. METHODS: After institutional review board approval, 81 cardiac surgical patients were prospectively studied. Urine samples were collected immediately before incision and at various time intervals after surgery for NGAL analysis by quantitative immunoblotting. ARD was defined as peak postoperative serum creatinine increase by 50% or greater compared with preoperative serum creatinine. RESULTS: Sixteen of 81 patients (20%) developed postoperative ARD, and the mean urinary NGAL concentrations in patients who developed ARD were significantly higher early after surgery (after 1 h: 4,195 +/- 6,520 [mean +/- SD] vs. 1,068 +/- 2,129 ng/ml; P < 0.01) compared with patients who did not develop ARD. Mean urinary NGAL concentrations continued to increase and remained significantly higher at 3 and 18 h after cardiac surgery in patients with ARD. In contrast, urinary NGAL in patients without ARD decreased rapidly after cardiac surgery. CONCLUSIONS: Patients developing postoperative ARD had significantly higher urinary NGAL concentrations early after cardiac surgery. Urinary NGAL may therefore be a useful early biomarker of ARD after cardiac surgery. These findings may facilitate the early detection of acute renal injury and potentially prevent progression to acute renal failure.

L2 ANSWER 23 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

ACCESSION NUMBER: 2007:196059 BIOSIS
DOCUMENT NUMBER: PREV200700202308
TITLE: A preliminary evaluation of a novel biomarker of renal function, neutrophil gelatinase-associated lipocalin (NGAL), in patients with liver disease.
AUTHOR(S): Portal, Andrew J. [Reprint Author]; Austin, Mark; Bruce, Matthew J.; Wendon, Julia; Heneghan, Michael
CORPORATE SOURCE: Univ London Kings Coll Hosp, Inst Liver Studies, London SE5 8RX, UK
SOURCE: Hepatology, (OCT 2006) Vol. 44, No. 4, Suppl. 1, pp. 451A. Meeting Info.: 57th Annual Meeting of the American-Association-for-the-Study-of-Liver-Diseases. Boston, MA, USA. October 27 -31, 2006. Amer Assoc Study Liver Dis.
CODEN: HPTLD9. ISSN: 0270-9139.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 21 Mar 2007
Last Updated on STN: 21 Mar 2007

ED Entered STN: 21 Mar 2007
Last Updated on STN: 21 Mar 2007

L2 ANSWER 24 OF 60 MEDLINE on STN DUPLICATE 11
ACCESSION NUMBER: 2006442313 MEDLINE

DOCUMENT NUMBER: PubMed ID: 16775460
TITLE: Neutrophil gelatinase-associated lipocalin-mediated iron traffic in kidney epithelia.
AUTHOR: Schmidt-Ott Kai M; Mori Kiyoshi; Kalandadze Avtandil; Li Jau-Yi; Paragas Neal; Nicholas Thomas; Devarajan Prasad; Barasch Jonathan
CORPORATE SOURCE: Department of Medicine, Columbia University College of Physicians and Surgeons, New York, NY 10032, USA.
CONTRACT NUMBER: DK-55388 (NIDDK)
DK-58872 (NIDDK)
SOURCE: Current opinion in nephrology and hypertension, (2006 Jul) Vol. 15, No. 4, pp. 442-9. Ref: 75
Journal code: 9303753. ISSN: 1062-4821.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200611
ENTRY DATE: Entered STN: 27 Jul 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 28 Nov 2006

ED Entered STN: 27 Jul 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 28 Nov 2006

AB PURPOSE OF REVIEW: Neutrophil gelatinase-associated lipocalin (NGAL) is a member of the lipocalin superfamily of carrier proteins. NGAL is the first known mammalian protein which specifically binds organic molecules called siderophores, which are high-affinity iron chelators. Here, we review the expression, siderophore-dependent biological activities and clinical significance of NGAL in epithelial development and in kidney disease. RECENT FINDINGS: NGAL expression is rapidly induced in the nephron in response to renal epithelial injury. This has led to the establishment of NGAL assays that detect renal damage in the human. Additionally, only when complexed with siderophore and iron as a trimer, NGAL induces mesenchymal-epithelial transition (or nephron formation) in embryonic kidney in vitro and protects adult kidney from ischemia-reperfusion injury in vivo. While the structure of the NGAL: siderophore: iron complex has thus far only been solved for bacterially synthesized siderophores, new evidence suggests the presence of mammalian siderophore-like molecules. SUMMARY: NGAL is rapidly and massively induced in renal epithelial injury and NGAL: siderophore: iron complexes may comprise a physiological renoprotective mechanism. The data have implications for the diagnosis and treatment of acute renal injury.

L2 ANSWER 25 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2006:367733 BIOSIS
DOCUMENT NUMBER: PREV200600370149
TITLE: Neutrophil gelatinase-associated lipocalin and interleukin-18: Early, sequential, predictive biomarkers of acute kidney injury after cardiac surgery.
AUTHOR(S): Parikh, C. [Reprint Author]; Mishra, J.; Ma, Q.; Kelly, C.; Dent, C.; Devarajan, P.; Edelstein, C.
CORPORATE SOURCE: Yale Univ, New Haven, CT USA
SOURCE: Journal of Investigative Medicine, (MAR 2006) Vol. 54, No. 2, pp. S382,S381.
Meeting Info.: Combined Annual Meeting of the

Central-Society-for-Clinical-Research/Midwestern Section of the American-Federation-for-Medical-Research. Chicago, IL, USA. 20060428,. Central Soc Clin Res; Amer Federat Med Res, Midwestern Sec.
ISSN: 1081-5589.

DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 26 Jul 2006
Last Updated on STN: 26 Jul 2006
ED Entered STN: 26 Jul 2006
Last Updated on STN: 26 Jul 2006

L2 ANSWER 26 OF 60 MEDLINE on STN DUPLICATE 12
ACCESSION NUMBER: 2006342380 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16755774
TITLE: [NGAL--neutrophil gelatinase associated lipocalin in biochemistry, physiology and clinical praxis]. NGAL-neutrofilni, s gelatinazou asociovany lipokalin v biochemii, fyziologii a klinicke praxi.
AUTHOR: Kalousek I; Roselova P; Otevrelova P
CORPORATE SOURCE: Ustav hematologie a krevni transfuze, Praha.. ivan.kalousek@uhkt.cz
SOURCE: Casopis lekar u c eskych, (2006) Vol. 145, No. 5, pp. 373-6. Ref: 40
Journal code: 0004743. ISSN: 0008-7335.
PUB. COUNTRY: Czech Republic
DOCUMENT TYPE: (ENGLISH ABSTRACT)
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: Czech
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200607
ENTRY DATE: Entered STN: 8 Jun 2006
Last Updated on STN: 27 Jul 2006
Entered Medline: 26 Jul 2006
ED Entered STN: 8 Jun 2006
Last Updated on STN: 27 Jul 2006
Entered Medline: 26 Jul 2006

AB Neutrophil gelatinase associated lipocalin belongs to a family of small proteins, lipocalins, engaged in the transmembrane transportation of lipophylic substances. Originally isolated from specific granules of neutrophils, it was later located in bone marrow cells as well as lung, bronchial and colon epithelial cells. The expression of neutrophil lipocalin in epithelial cells and in body fluids considerably augments during the occurrence of inflammations and some cancers. A modulation of immunity response was thus suggested to be the main function of neutrophil lipocalin as well as the bacteriostatic effect originating from competition between neutrophil lipocalin and bacteria for siderophoric iron. Forming protective complexes with gelatinase B, the neutrophil lipocalin is implicated in regulatory processes of physiological and pathological rebuilding of tissues, mainly in the angiogenesis. The determination of neutrophil lipocalin levels in body fluids able to discriminate between bacterial and viral infections provides a powerful diagnostic tool. The examination of neutrophil lipocalin in the sera and urine of patients at risk of renal failure offers a very early marker of this acute state. Neutrophil lipocalin represents a sensitive non-invasive marker of renal ischemia and in patients with cystic fibrosis the marker of acute pulmonary exacerbation. Discussions have been conducted regarding the role of neutrophil lipocalin as an early marker of pancreatic cancer or of neutrophilic activation in severe cases of bowel diseases.

L2 ANSWER 27 OF 60 MEDLINE on STN DUPLICATE 13
ACCESSION NUMBER: 2006307458 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16735819
TITLE: Perioperative acute renal failure.
AUTHOR: Mahon Padraig; Shorten George
CORPORATE SOURCE: Department of Anaesthesia, Cork University Hospital, Wilton, Cork, Ireland.. rsimahon@hotmail.com
SOURCE: Current opinion in anaesthesiology, (2006 Jun) Vol. 19, No. 3, pp. 332-8. Ref: 73
Journal code: 8813436. ISSN: 0952-7907.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200609
ENTRY DATE: Entered STN: 1 Jun 2006
Last Updated on STN: 13 Sep 2006
Entered Medline: 12 Sep 2006
ED Entered STN: 1 Jun 2006
Last Updated on STN: 13 Sep 2006
Entered Medline: 12 Sep 2006
AB PURPOSE OF REVIEW: Recent biochemical evidence increasingly implicates inflammatory mechanisms as precipitants of acute renal failure. In this review, we detail some of these pathways together with potential new therapeutic targets. RECENT FINDINGS: Neutrophil gelatinase-associated lipocalin appears to be a sensitive, specific and reliable biomarker of renal injury, which may be predictive of renal outcome in the perioperative setting. For estimation of glomerular filtration rate, cystatin C is superior to creatinine. No drug is definitively effective at preventing postoperative renal failure. Clinical trials of fenoldopam and atrial natriuretic peptide are, at best, equivocal. As with pharmacological preconditioning of the heart, volatile anaesthetic agents appear to offer a protective effect to the subsequently ischaemic kidney. SUMMARY: Although a greatly improved understanding of the pathophysiology of acute renal failure has offered even more therapeutic targets, the maintenance of intravascular euvolaemia and perfusion pressure is most effective at preventing new postoperative acute renal failure. In the future, strategies targeting renal regeneration after injury will use bone marrow-derived stem cells and growth factors such as insulin-like growth factor-1.

L2 ANSWER 28 OF 60 MEDLINE on STN DUPLICATE 14
ACCESSION NUMBER: 2006426435 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16772710
TITLE: Neutrophil-gelatinase-associated lipocalin and renal function after percutaneous coronary interventions.
AUTHOR: Bachorzewska-Gajewska H; Malyszko J; Sitniewska E; Malyszko J S; Dobrzycki S
CORPORATE SOURCE: Department of Invasive Cardiology, Medical University, Bialystok, Poland.
SOURCE: American journal of nephrology, (2006) Vol. 26, No. 3, pp. 287-92. Electronic Publication: 2006-06-13.
Journal code: 8109361. ISSN: 0250-8095.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200611
ENTRY DATE: Entered STN: 20 Jul 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 28 Nov 2006

ED Entered STN: 20 Jul 2006
Last Updated on STN: 19 Dec 2006
Entered Medline: 28 Nov 2006

AB BACKGROUND/AIMS: The value of neutrophil-gelatinase-associated lipocalin (NGAL), a novel biomarker in the detection of acute renal failure in children after cardiac surgery, has been highlighted in previous studies. The incidence of percutaneous coronary intervention (PCI) increases, which may possibly result in increased incidences of contrast nephropathy, its potentially serious complication. Therefore, the aim of our study was to assess prospectively NGAL in patients undergoing elective PCI in relation to serum creatinine. METHODS: NGAL was assessed in the serum and urine using commercially available kits. RESULTS: We measured urinary and serum NGAL before, and 2, 4, 12, 24 and 48 h after PCI. We found a significant rise in serum NGAL 2 and 4 h after PCI, and a rise in urinary NGAL 4 and 12 h after PCI. Before PCI, serum NGAL was significantly associated with serum creatinine, urea, urinary NGAL, hemoglobin, hematocrit, albumin, age and presence of diabetes. In multivariate analysis, serum creatinine was the only predictor of serum NGAL. Serum NGAL 2 h after PCI correlated with serum creatinine, duration of PCI, HbA1c, hematocrit, hemoglobin and urinary NGAL. In multivariate analysis, the only predictors of serum NGAL 2 h after PCI were serum creatinine, time of PCI and HbA1c. Serum NGAL before PCI was significantly higher in diabetics than in non-diabetics. CONCLUSIONS: NGAL may represent a sensitive early biomarker of renal impairment after PCI. Serum creatinine, duration of PCI, but not type and amount of contrast agent, and appropriate treatment of diabetes, reflected by HbA1c, predict a rise in serum NGAL and kidney function following PCI.

L2 ANSWER 29 OF 60 MEDLINE on STN DUPLICATE 15

ACCESSION NUMBER: 2006488718 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16912649
TITLE: Biomarkers of acute renal injury and renal failure.
AUTHOR: Trof Ronald J; Di Maggio Francesco; Leemreis Jan; Groeneveld A B Johan
CORPORATE SOURCE: Department of Intensive Care, Vrije Universiteit Medical Center, Amsterdam, The Netherlands.
SOURCE: Shock (Augusta, Ga.), (2006 Sep) Vol. 26, No. 3, pp. 245-53. Ref: 81
Journal code: 9421564. ISSN: 1073-2322.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200610
ENTRY DATE: Entered STN: 17 Aug 2006
Last Updated on STN: 11 Oct 2006
Entered Medline: 10 Oct 2006

ED Entered STN: 17 Aug 2006
Last Updated on STN: 11 Oct 2006
Entered Medline: 10 Oct 2006

AB Acute renal failure (ARF) is a frequent problem in the intensive care unit and is associated with a high mortality. Early recognition could help clinical management, but current indices lack sufficient predictive value for ARF. Therefore, there might be a need for biomarkers in detecting renal tubular injury and/or dysfunction at an early stage before a decline in glomerular filtration rate is noted by an increased serum creatinine. A MEDLINE/PubMed search was performed, including all articles about biomarkers for ARF. All publication types, human and animal studies, or subsets were searched in English language. An extraction of relevant

articles was made for the purpose of this narrative review. These biomarkers include tubular enzymes (alpha- and pi-glutathione S-transferase, N-acetyl-glucosaminidase, alkaline phosphatase, gamma-glutamyl transpeptidase, Ala-(Leu-Gly)-aminopeptidase, and fructose-1,6-biphosphatase), low-molecular weight urinary proteins (alpha1- and beta2-microglobulin, retinol-binding protein, adenosine deaminase-binding protein, and cystatin C), Na+/H+ exchanger, neutrophil gelatinase-associated lipocalin, cysteine-rich protein 61, kidney injury molecule 1, urinary interleukins/adhesion molecules, and markers of glomerular filtration such as proatrial natriuretic peptide (1-98) and cystatin C. These biomarkers, detected in urine or serum shortly after tubular injury, have been suggested to contribute to prediction of ARF and need for renal replacement therapy. However, excretion of these biomarkers may also increase after reversible and mild dysfunction and may not necessarily be associated with persistent or irreversible damage. Large prospective studies in human are needed to demonstrate an improved outcome of biomarker-driven management of the patient at risk for ARF.

L2 ANSWER 30 OF 60 MEDLINE on STN DUPLICATE 16

ACCESSION NUMBER: 2006392321 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16710348
TITLE: Urinary IL-18 is an early predictive biomarker of acute kidney injury after cardiac surgery.
AUTHOR: Parikh C R; Mishra J; Thiessen-Philbrook H; Dursun B; Ma Q; Kelly C; Dent C; Devarajan P; Edelstein C L
CORPORATE SOURCE: Section of Nephrology, Yale University, New Haven, Connecticut 06516, USA.. chirag.parikh@yale.edu
CONTRACT NUMBER: K23-DK064689 (NIDDK)
P01-DK34039 (NIDDK)
P50-DK52612 (NIDDK)
R01-DK53289 (NIDDK)
R01-DK56851 (NIDDK)
R21-DK070163 (NIDDK)
SOURCE: Kidney international, (2006 Jul) Vol. 70, No. 1, pp. 199-203. Electronic Publication: 2006-05-17.
Journal code: 0323470. ISSN: 0085-2538.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200608
ENTRY DATE: Entered STN: 1 Jul 2006
Last Updated on STN: 24 Aug 2006
Entered Medline: 23 Aug 2006

ED Entered STN: 1 Jul 2006
Last Updated on STN: 24 Aug 2006
Entered Medline: 23 Aug 2006

AB Acute kidney injury (AKI) is a frequent complication of cardiopulmonary bypass (CPB). The lack of early biomarkers for AKI has impaired our ability to intervene in a timely manner. Urinary neutrophil gelatinase-associated lipocalin (NGAL) is recently demonstrated as an early biomarker of AKI after CPB, increasing 25-fold within 2 h and declining 6 h after surgery. In the present study, we tested whether interleukin-18 (IL-18) is a predictive biomarker for AKI in the same group of patients following CPB. Exclusion criteria included pre-existing renal insufficiency and nephrotoxin use. Serial urine samples were analyzed by enzyme-linked immunosorbent assay for IL-18 in 20 patients who developed AKI (defined as a 50% or greater increase in serum creatinine after CPB) and 35 controls (age, race, and gender-matched patients who did not develop AKI after CPB). Using serum creatinine, AKI was detected only 48-72 h after CPB. In contrast, urine

IL-18 increased at 4-6 h after CPB, peaked at over 25-fold at 12 h, and remained markedly elevated up to 48 h after CPB. The performance of IL-18 as demonstrated by area under the receiver operating characteristics curve for diagnosis of AKI at 4, 12, and 24 h after CPB was 61, 75, and 73% respectively. Also, on multivariate analysis, both IL-18 and NGAL were independently associated with number of days in AKI among cases. Our results indicate that IL-18 is an early, predictive biomarker of AKI after CPB, and that NGAL and IL-18 are increased in tandem after CPB. The combination of these two biomarkers may allow for the reliable early diagnosis and prognosis of AKI at all times after CPB, much before the rise in serum creatinine.

L2 ANSWER 31 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

ACCESSION NUMBER: 2006:671625 BIOSIS
DOCUMENT NUMBER: PREV200600680071
TITLE: Could NGAL (neutrophil gelatinase-associated lipocalin) predict renal function after percutaneous coronary interventions-PCI.
AUTHOR(S): Malyszko, Jolanta [Reprint Author]; Bachorzewska-Gajewska, Hanna; Malyszko, Jacek; Pawlak, Krystyna; Mysliwiec, Michal; Dobrzycki, Slawomir
CORPORATE SOURCE: Med Univ, Bialystok, Poland
SOURCE: Nephrology Dialysis Transplantation, (JUL 2006) Vol. 21, No. Suppl. 4, pp. 106.
Meeting Info.: 43rd ERA-EDTA Congress. Glasgow, UK. July 15 -18, 2006. ERA; EDTA.
ISSN: 0931-0509.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 6 Dec 2006
Last Updated on STN: 6 Dec 2006
ED Entered STN: 6 Dec 2006
Last Updated on STN: 6 Dec 2006

L2 ANSWER 32 OF 60 MEDLINE on STN

ACCESSION NUMBER: 2006542919 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16967714
TITLE: [Early laboratory markers of acute renal failure]. Wczesne laboratoryjne markery ostrej niewydolnosci nerek.
AUTHOR: Miklaszewska Monika; Pietrzyk Jacek A; Zachwieja Katarzyna; Drozdz Dorota; Sulowicz Wladylaw
CORPORATE SOURCE: Zaklad Dializ Polsko-Amerykanskiego, Instytutu Pediatrii Collegium Medicum, Uniwersytetu Jagielloniskiego.
SOURCE: Przegla d lekarski, (2006) Vol. 63, No. 2, pp. 81-4. Ref: 34
Journal code: 19840720R. ISSN: 0033-2240.
PUB. COUNTRY: Poland
DOCUMENT TYPE: (ENGLISH ABSTRACT)
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: Polish
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200612
ENTRY DATE: Entered STN: 14 Sep 2006
Last Updated on STN: 29 Dec 2006
Entered Medline: 28 Dec 2006
ED Entered STN: 14 Sep 2006
Last Updated on STN: 29 Dec 2006
Entered Medline: 28 Dec 2006
AB Acute renal failure is a sudden clinical condition caused by loss of renal ability to maintain homeostasis. Despite significant advances in renal

ischemic, ischemic-reperfusion, or toxin-induced injury to the organ, such as the kidney. A siderophore can be co-administered with the NGAL. The invention also relates to administering a siderophore to enhance a response to secretion of NGAL following an ischemic or toxin-induced injury to an organ in a patient.

L2 ANSWER 34 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1292077 CAPLUS
DOCUMENT NUMBER: 144:19237
TITLE: Method and kit for the early detection of renal injury by detection of NGAL polypeptide in blood serum
INVENTOR(S): Devarajan, Prasad; Barasch, Jonathan M.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 22 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005272101	A1	20051208	US 2005-96113	20050331
AU 2005253142	A1	20051222	AU 2005-253142	20050607
CA 2569599	A1	20051222	CA 2005-2569599	20050607
WO 2005121788	A2	20051222	WO 2005-US19951	20050607
WO 2005121788	A3	20060511		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1766395	A2	20070328	EP 2005-755309	20050607
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
US 2007037232	A1	20070215	US 2005-374285	20051013

PRIORITY APPLN. INFO.:		
US 2004-577662P	P	20040607
US 2005-96113	A	20050331
WO 2005-US19951	W	20050607

ED Entered STN: 09 Dec 2005
AB A method and kit for detecting the immediate or early onset of renal disease and injury, including renal tubular cell injury, utilize NGAL as an immediate or early on-set biomarker in a sample of blood serum. NGAL is a small secreted polypeptide that is protease resistant and consequently readily detected in the blood serum following renal tubule cell injury. NGAL protein expression is detected predominantly in proximal tubule cells, in a punctuate cytoplasmic distribution reminiscent of a secreted protein. The appearance NGAL in the serum is related to the dose and duration of renal ischemia and nephrotoxemia, and is diagnostic of renal tubule cell injury and renal failure. NGAL detection is also a useful marker for monitoring the nephrotoxic side effects of drugs or other therapeutic agents. Seveny-one children undergoing cardiopulmonary bypass (CPB) were studied. Serial urine and blood samples were analyzed by Western blots and ELISA for NGAL expression. The primary outcome variable was acute renal injury, defined as a 50 % increase in serum creatinine from baseline. Twenty patients (28

%) developed acute renal injury, but the diagnosis using serum creatinine was possible only 1-3 days after CPB. In contrast, urine NGAL rose from a baseline of 1.6±0.3 ng/mL to 147±23 ng/mL at 2 h after CPB. Serum NGAL increased from a baseline of 3.2±0.5 ng/mL to 61±10 ng/mL at 2 h after CPB. Univariate anal. showed a significant correlation between acute renal injury and the following: 2 h urine NGAL, 2 h serum NGAL, and CPB time.

L2 ANSWER 35 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:168152 CAPLUS
DOCUMENT NUMBER: 142:333536
TITLE: Expression of Neutrophil Gelatinase-associated Lipocalin Regulates Epithelial Morphogenesis in Vitro
AUTHOR(S): Gwira, Jane A.; Wei, Feng; Ishibe, Shuta; Ueland, Joseph M.; Barasch, Jonathan; Cantley, Lloyd G.
CORPORATE SOURCE: Department of Medicine, Yale University, Connecticut, NY, 06520, USA
SOURCE: Journal of Biological Chemistry (2005), 280(9), 7875-7882
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 28 Feb 2005
AB Growth factors such as hepatocyte growth factor (HGF) are highly up-regulated during development and following renal injury and are known to induce marked morphogenic actions in cultured tubular epithelial cells, including scattering, migration, single cell branching morphogenesis, and multicellular branching tubulogenesis. In the present study, we demonstrate that HGF stimulates epithelial cells to express neutrophil gelatinase-associated lipocalin (Ngal), a member of the lipocalin family of secreted proteins that has recently been shown to participate in mesenchymal-epithelial transformation via its ability to augment cellular iron uptake. At concns. below those found to mediate iron transport, purified Ngal can induce a promigratory and probranching effect that is dependent on ERK activation. The suppression of Ngal expression using short hairpin RNA results in increased cyst formation by tubular cells. However, the simultaneous addition of Ngal and HGF leads to direct association of the two proteins, and results in a partial inhibition of HGF-mediated activation of c-Met and the downstream MAPK and phosphatidylinositol 3-kinase signaling pathways. This inhibitory effect down-regulates HGF-stimulated single cell migration, and limits branching morphogenesis at both the single cell and multicellular level. These expts. demonstrate that the local expression of Ngal can play a regulatory role in epithelial morphogenesis by promoting the organization of cells into tubular structures while simultaneously neg. modulating the branching effects of HGF.
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 36 OF 60 MEDLINE on STN DUPLICATE 17
ACCESSION NUMBER: 2005400693 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16061852
TITLE: The matrix metalloproteinase-9/neutrophil gelatinase-associated lipocalin complex plays a role in breast tumor growth and is present in the urine of breast cancer patients.
AUTHOR: Fernandez Cecilia A; Yan Li; Louis Gwendolyn; Yang Jiang; Kutok Jeffery L; Moses Marsha A
CORPORATE SOURCE: Vascular Biology Program and Department of Surgery, Children's Hospital Boston, MA, USA.

CONTRACT NUMBER: CA83106 (NCI)
P01CA45548 (NCI)
P50DK065298 (NIDDK)
SOURCE: Clinical cancer research : an official journal of the American Association for Cancer Research, (2005 Aug 1) Vol. 11, No. 15, pp. 5390-5.
Journal code: 9502500. ISSN: 1078-0432.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200601
ENTRY DATE: Entered STN: 3 Aug 2005
Last Updated on STN: 6 Jan 2006
Entered Medline: 5 Jan 2006
ED Entered STN: 3 Aug 2005
Last Updated on STN: 6 Jan 2006
Entered Medline: 5 Jan 2006
AB PURPOSE: Having previously shown that the binding of neutrophil gelatinase-associated lipocalin (NGAL) to matrix metalloproteinase-9 (MMP-9) protects this extracellular matrix remodeling enzyme from autodegradation, we hypothesized that the addition of NGAL to breast cancer cells, which do not express this protein but do express MMP-9, might result in a more aggressive phenotype in vivo. Based on our previous reports that MMPs can be detected in the urine of cancer patients, we also asked whether MMP-9/NGAL could be detected in the urine of breast cancer patients and whether it might be predictive of disease status. EXPERIMENTAL DESIGN: Clones of MCF-7 human breast cancer cells differentially expressing NGAL were generated by stable transfection with human NGAL expression constructs. The established clones were then implanted s.c. in immunodeficient mice and tumor growth was monitored. In addition, we analyzed the urine of individuals with breast cancer and age-matched, sex-matched controls using gelatin zymography for the presence of MMP-9/NGAL. RESULTS: Increased NGAL expression resulted in significant stimulation of tumor growth. Immunohistochemical analysis of MCF-7 tumors revealed that the NGAL-overexpressing ones exhibited increased growth rates that were accompanied by increased levels of MMP-9, increased angiogenesis, and an increase in the tumor cell proliferative fraction. In addition, MMP-9/NGAL complex was detected in 86.36% of the urine samples from breast cancer patients but not in those from healthy age and sex-matched controls. CONCLUSIONS: These findings suggest, for the first time, that NGAL may play an important role in breast cancer in vivo by protecting MMP-9 from degradation thereby enhancing its enzymatic activity and facilitating angiogenesis and tumor growth. Clinically, these data suggest that the urinary detection of MMP-9/NGAL may be useful in noninvasively predicting disease status of breast cancer patients.

L2 ANSWER 37 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:926943 CAPLUS
DOCUMENT NUMBER: 146:74947
TITLE: Expression and significance of neutrophil gelatinase-associated lipocalin in drug-induced acute interstitial nephritis
AUTHOR(S): Zhang, Jianguo; Ding, Hanlu; Ren, Jiangwen; Gao, Wenda
CORPORATE SOURCE: Daping Hospital, Third Military Medical University, Chongqing, 400042, Peop. Rep. China
SOURCE: Di-San Junyi Daxue Xuebao (2005), 27(20), 2083-2085
CODEN: DYXUE8; ISSN: 1000-5404
PUBLISHER: Di-San Junyi Daxue Xuebao Bianjibu

DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 11 Sep 2006
AB The role of neutrophil gelatinase-associated lipocalin (NGAL) in the pathogenesis of drug-induced acute interstitial nephritis (AIN) and its correlation with the degree of tubulointerstitial lesions were investigated. The expression of NGAL of renal tissues from 15 diagnosed drug-induced AIN patients were detected by immunohistochem. staining. Another 15 normal renal tissues were served as control. NGAL expression were significantly higher in AIN than that in the normal renal tissue. The intensity of pos. NGAL in renal tissues of AIN showed a neg. correlation with the degree of tubulointerstitial lesions. Increased expression of NGAL in renal tissue of AIN has an important effect on the degree of tubulointerstitial lesions.

L2 ANSWER 38 OF 60 MEDLINE on STN DUPLICATE 18
ACCESSION NUMBER: 2005179777 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15811456
TITLE: Neutrophil gelatinase-associated lipocalin (NGAL) as a biomarker for acute renal injury after cardiac surgery.
AUTHOR: Mishra Jaya; Dent Catherine; Tarabishi Ridwan; Mitsnefes Mark M; Ma Qing; Kelly Caitlin; Ruff Stacey M; Zahedi Kamyar; Shao Mingyuan; Bean Judy; Mori Kiyoshi; Barasch Jonathan; Devarajan Prasad
CORPORATE SOURCE: Division of Nephrology and Hypertension, Cincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine, Cincinnati, OH 45229-3039, USA.
CONTRACT NUMBER: P50 DK52612 (NIDDK)
R01 DK-58872 (NIDDK)
R01-DK53289 (NIDDK)
R01-DK55388 (NIDDK)
R21-DK070163 (NIDDK)
SOURCE: Lancet, (Apr 2-8 2005) Vol. 365, No. 9466, pp. 1231-8. Journal code: 2985213R. E-ISSN: 1474-547X.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T) (RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200504
ENTRY DATE: Entered STN: 7 Apr 2005
Last Updated on STN: 19 Apr 2005
Entered Medline: 18 Apr 2005
ED Entered STN: 7 Apr 2005
Last Updated on STN: 19 Apr 2005
Entered Medline: 18 Apr 2005
AB BACKGROUND: The scarcity of early biomarkers for acute renal failure has hindered our ability to launch preventive and therapeutic measures for this disorder in a timely manner. We tested the hypothesis that neutrophil gelatinase-associated lipocalin (NGAL) is an early biomarker for ischaemic renal injury after cardiopulmonary bypass. METHODS: We studied 71 children undergoing cardiopulmonary bypass. Serial urine and blood samples were analysed by western blots and ELISA for NGAL expression. The primary outcome measure was acute renal injury, defined as a 50% increase in serum creatinine from baseline. FINDINGS: 20 children (28%) developed acute renal injury, but diagnosis with serum creatinine was only possible 1-3 days after cardiopulmonary bypass. By contrast, urine concentrations of NGAL rose from a mean of 1.6 microg/L (SE 0.3) at baseline to 147 microg/L (23) 2 h after cardiopulmonary bypass, and the amount in serum

replacement therapy--the mortality rate in ARF patients is still very high--ranging from 20% to 50%. Differential diagnostics, especially between acute prerenal and intrinsic acute renal failure is an extremly important stage in patient evaluation process. In the article--the authors present a short and concise profile of novel, more and less promising for future diagnostic ARF biomarkers: neutrophil gelatinase associated lipocalin (NGAL), sodium/hydrogen exchanger isoform 3 (NHE3), human kidney injury molecule-1 (hKIM-1), interleukin 6 (IL-6), interleukin 8 (IL-8), interleukin 18 (IL-18), urinary cysteine-rich protein (Cyr 61), urinary glutathione-S-transferase (GST), cystatin C, spermidine/spermine N-acetyl transferase (SSAT) and actin) which are recently either in the animal model research stage or during preliminary clinical studies. Extension of research and wideninig of knowledge about the discussed novel, early markers of ARF--would permit for quicker introduction of specifically guided therapy and might improve the prognosis of ARF patients in the near future.

L2 ANSWER 33 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1220561 CAPLUS
DOCUMENT NUMBER: 143:472582
TITLE: NGAL for reduction and amelioration of ischemic and nephrotoxic injuries
INVENTOR(S): Barasch, Jonathan M.; Devarajan, Prasad; Mori, Kiyoshi
PATENT ASSIGNEE(S): The Trustees of Columbia University, USA; Children's Hospital Medical Center
SOURCE: PCT Int. Appl., 80 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005107793	A2	20051117	WO 2005-US15799	20050506
WO 2005107793	A3	20051229		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2005240190	A1	20051117	AU 2005-240190	20050506
CA 2565701	A1	20051117	CA 2005-2565701	20050506
US 2005261191	A1	20051124	US 2005-123364	20050506
EP 1750500	A2	20070214	EP 2005-749675	20050506
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				

PRIORITY APPLN. INFO.:

US 2004-568645P	P	20040506
US 2004-615566P	P	20041001
WO 2005-US15799	W	20050506

ED Entered STN: 18 Nov 2005
AB Use of neutrophil gelatinase-associated lipocalin (NGAL) as a therapeutic and in a method of treating, reducing, or ameliorating an injury selected from an ischemic injury, an ischemic-reperfusion injury, and a toxin-induced injury, to an organ in a patient. The invention includes administering to the patient NGAL in an amount effective to treat, reduce or ameliorate

increased from a mean of 3.2 microg/L (SE 0.5) at baseline to 61 microg/L (10) 2 h after the procedure. Univariate analysis showed a significant correlation between acute renal injury and the following: urine and serum concentrations of NGAL at 2 h, and cardiopulmonary bypass time. By multivariate analysis, the amount of NGAL in urine at 2 h after cardiopulmonary bypass was the most powerful independent predictor of acute renal injury. For concentration in urine of NGAL at 2 h, the area under the receiver-operating characteristic curve was 0.998, sensitivity was 1.00, and specificity was 0.98 for a cutoff value of 50 microg/L. INTERPRETATION: Concentrations in urine and serum of NGAL represent sensitive, specific, and highly predictive early biomarkers for acute renal injury after cardiac surgery.

L2 ANSWER 39 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:341941 CAPLUS
DOCUMENT NUMBER: 143:816
TITLE: Protective effect of carbon monoxide-releasing compounds in ischemia-induced acute renal failure
AUTHOR(S): Vera, Trinity; Henegar, Jeffrey R.; Drummond, Heather A.; Rimoldi, John M.; Stec, David E.
CORPORATE SOURCE: Department of Physiology and Biophysics, Center for Excellence in Cardiovascular-Renal Research, University of Mississippi Medical Center, Jackson, USA
SOURCE: Journal of the American Society of Nephrology (2005), 16(4), 950-958
CODEN: JASNEU; ISSN: 1046-6673
PUBLISHER: American Society of Nephrology
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 21 Apr 2005
AB Heme oxygenase (HO) induction has been demonstrated to be beneficial in limiting the extent of cellular damage after ischemia-induced acute renal failure (ARF). Because increased HO activity is associated with the production of carbon monoxide (CO) as well as the potent antioxidant bilirubin, it is unclear which of the two is of greater importance in the protective effects of HO induction. The purpose of this study was to determine the protective role of CO alone in ischemia-induced ARF. Bilateral clamping of the renal pedicle for 40 min was associated with a ninefold increase in the levels of plasma creatinine 24 h after reperfusion as compared with normal plasma creatinine levels; however, administration of CO donor compds. tricarbonyldichlororuthenium(II) dimer, ([Ru(CO)3Cl2]2, 10 mg/kg) or tricarbonylchloro(glycinato)ruthenium(II) ([Ru(CO)3Cl(glycinate)], (CORM-3) 1 h before the onset of ischemia significantly decreased the levels of plasma creatinine 24 h after reperfusion as compared with vehicle-treated mice. Surprising, treatment with the CO donors was associated with an increase in HO activity 24 h after ischemia. For determining whether the protective effects of the CO donors were due to CO or HO-1 induction, expts. were performed in which HO was inhibited before administration of the CO donors. Pretreatment with the HO inhibitor had no effect on the level of plasma creatinine 24 h after reperfusion after treatment with the CO donor compds. These results suggest that CO itself may be protective and limit renal damage in ischemia induced ARF.
REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 40 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1180312 CAPLUS
DOCUMENT NUMBER: 144:387750
TITLE: Biomarkers in early diagnosis of renal failure
AUTHOR(S): Zhang, Tong; Mei, Changlin
CORPORATE SOURCE: Changzheng Hospital, Second Military Medical University, Shanghai, 200003, Peop. Rep. China

SOURCE: Zhonghua Jizhen Yixue Zazhi (2005), 14(10), 876-877
CODEN: ZJYZBQ; ISSN: 1671-0282
PUBLISHER: Zhonghua Jizhen Yixue Zazhi Bianjibu
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Chinese
ED Entered STN: 07 Nov 2005
AB A review. Topics discussed include: kidney injury mol. 1 (KIM-1); cysteine-rich protein 61 (Cyr61); Neutrophil gelatinase-associated lipocalin (NGAL); sodium-hydrogen excharger isoform 3 (NHE3); urinary cytokines; urinary actins; urinary glutathione S-transferases (GST)s; and blood and urinary cystatin C.

L2 ANSWER 41 OF 60 MEDLINE on STN DUPLICATE 19
ACCESSION NUMBER: 2005215276 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15711640
TITLE: Endocytic delivery of lipocalin-siderophore-iron complex rescues the kidney from ischemia-reperfusion injury.
AUTHOR: Mori Kiyoshi; Lee H Thomas; Rapoport Dana; Drexler Ian R; Foster Kirk; Yang Jun; Schmidt-Ott Kai M; Chen Xia; Li Jau Yi; Weiss Stacey; Mishra Jaya; Cheema Faisal H; Markowitz Glenn; Suganami Takayoshi; Sawai Kazutomo; Mukoyama Masashi; Kunis Cheryl; D'Agati Vivette; Devarajan Prasad; Barasch Jonathan
CORPORATE SOURCE: Department of Medicine, College of Physicians and Surgeons, Columbia University, New York, New York, USA..
CONTRACT NUMBER: DK55388 (NIDDK)
DK58872 (NIDDK)
SOURCE: The Journal of clinical investigation, (2005 Mar) Vol. 115, No. 3, pp. 610-21.
Journal code: 7802877. ISSN: 0021-9738.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200505
ENTRY DATE: Entered STN: 27 Apr 2005
Last Updated on STN: 10 May 2005
Entered Medline: 9 May 2005
ED Entered STN: 27 Apr 2005
Last Updated on STN: 10 May 2005
Entered Medline: 9 May 2005
AB Neutrophil gelatinase-associated lipocalin (Ngal), also known as siderocalin, forms a complex with iron-binding siderophores (Ngal:siderophore:Fe). This complex converts renal progenitors into epithelial tubules. In this study, we tested the hypothesis that Ngal:siderophore:Fe protects adult kidney epithelial cells or accelerates their recovery from damage. Using a mouse model of severe renal failure, ischemia-reperfusion injury, we show that a single dose of Ngal (10 microg), introduced during the initial phase of the disease, dramatically protects the kidney and mitigates azotemia. Ngal activity depends on delivery of the protein and its siderophore to the proximal tubule. Iron must also be delivered, since blockade of the siderophore with gallium inhibits the rescue from ischemia. The Ngal:siderophore:Fe complex upregulates heme oxygenase-1, a protective enzyme, preserves proximal tubule N-cadherin, and inhibits cell death. Because mouse urine contains an Ngal-dependent siderophore-like activity, endogenous Ngal might also play a protective role. Indeed, Ngal is highly accumulated in the human kidney cortical tubules and in the blood and urine after nephrotoxic and ischemic injury. We reveal what we believe to be a novel pathway of iron traffic that is activated in human and mouse renal

diseases, and it provides a unique method for their treatment.

L2 ANSWER 42 OF 60 MEDLINE on STN DUPLICATE 20
ACCESSION NUMBER: 2005484835 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16153449
TITLE: PJ34, a poly-ADP-ribose polymerase inhibitor, modulates renal injury after thoracic aortic ischemia/reperfusion.
AUTHOR: Stone David H; Al-Badawi Hassan; Conrad Mark F; Stoner Michael C; Entabi Fateh; Cambria Richard P; Watkins Michael T
CORPORATE SOURCE: Division of Vascular and Endovascular Surgery, Department of Surgery, Massachusetts General Hospital, Harvard Medical School, Boston 02114, USA.
SOURCE: Surgery, (2005 Aug) Vol. 138, No. 2, pp. 368-74.
Journal code: 0417347. ISSN: 0039-6060.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200510
ENTRY DATE: Entered STN: 13 Sep 2005
Last Updated on STN: 19 Oct 2005
Entered Medline: 18 Oct 2005
ED Entered STN: 13 Sep 2005
Last Updated on STN: 19 Oct 2005
Entered Medline: 18 Oct 2005
AB BACKGROUND: These experiments sought to evaluate the effects of PJ34, a poly-ADP-ribose polymerase inhibitor, on molecular indices of renal injury, mitochondrial function, tissue thrombosis, and fibrinolysis after thoracic aortic ischemia/reperfusion (TAR). METHODS: Forty-three 129S1/SvImj mice were subjected to 11 minutes of TAR followed by 48 hours of reperfusion. Experimental groups included untreated normal saline (NS) controls (UC), (n=15, 0.5 mL NS i.p.) or PJ34 (PJ) (n=17, PJ34 10 mg/kg ip, 1 hour before and after TAR). Sham (SH) mice (n=11) underwent median sternotomy (heparin, NS i.p.) without TAR. Forty-eight hours after TAR or sham operation, kidney mitochondrial activity (using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium [MTT]), D-dimer, and thrombin-antithrombin III (TAT) complex levels were measured. Levels of messenger RNA for neutrophil gelatinase-associated lipocalin (NGAL), a marker for renal injury, were also measured by reverse transcriptase-polymerase chain reaction. RESULTS: PJ34 improves renal mitochondrial activity after 48 hours of TAR, compared with untreated control animals (UC, 87.6 +/- 2.2%; PJ, 151.4 +/- 9.5%; P < .001). PJ34 did not alter the increase in renal D-dimer levels by 48 hours reperfusion (UC, 1.37 +/- 0.09 U; PJ, 1.1 +/- 0.14 U; SH, 0.82 +/- 0.06 U; P < .05). TAR did not alter renal levels of TAT expression among groups (UC, 0.103 +/- 0.034; PJ, 0.067 +/- 0.008; SH, 0.106 +/- 0.027; P=.619). The incidence of significantly increased NGAL among UC mice was 1415 +/- 823.6 (n=12), compared with 29.6 +/- 20.8 (n=10) in the PJ34-treated group (P < .014). CONCLUSIONS: PJ34 preserves renal mitochondrial activity and decreases steady-state levels of NGAL after TAR. TAR did increase markers of fibrinolysis in renal tissue but their increase did not correlate with renal injury or PJ34 treatment. These studies indicate that PJ34 confers protection against TAR and suggest that PARP may represent a novel target for reducing perioperative renal injury.

L2 ANSWER 43 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:847662 CAPLUS
DOCUMENT NUMBER: 141:310293
TITLE: A method and kit for detecting the early onset of renal tubular cell injury
INVENTOR(S): Devarajan, Prased; Barasch, Jonathan M.

PATENT ASSIGNEE(S): Children's Hospital Medical Center, USA; The Trustees of Columbia University
SOURCE: PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004088276	A2	20041014	WO 2004-US9191	20040326
WO 2004088276	A3	20041125		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004225472	A1	20041014	AU 2004-225472	20040326
CA 2520658	A1	20041014	CA 2004-2520658	20040326
US 2004219603	A1	20041104	US 2004-811130	20040326
EP 1616184	A2	20060118	EP 2004-758356	20040326
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
BR 2004008802	A	20060404	BR 2004-8802	20040326
CN 1791797	A	20060621	CN 2004-80013336	20040326
JP 2006521565	T	20060921	JP 2006-509304	20040326

PRIORITY APPLN. INFO.:

US 2003-458143P	P	20030327
US 2003-481596P	P	20031104
WO 2004-US9191	W	20040326

ED Entered STN: 15 Oct 2004
AB A method and kit for detecting the early onset of renal tubular cell injury, utilizing NGAL as an early urinary biomarker. NGAL is a small secreted polypeptide that is protease resistant and consequently readily detected in the urine following renal tubule cell injury. NGAL protein expression is detected predominantly in proximal tubule cells, in a punctate cytoplasmic distribution reminiscent of a secreted protein. The appearance NGAL in the urine is related to the dose and duration of renal ischemia and nephrotoxemia, and is diagnostic of renal tubule cell injury and renal failure. NGAL detection is also a useful marker for monitoring the nephrotoxic side effects of drugs or other therapeutic agents.

L2 ANSWER 44 OF 60 MEDLINE on STN DUPLICATE 21
ACCESSION NUMBER: 2004613666 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15579510
TITLE: Amelioration of ischemic acute renal injury by neutrophil gelatinase-associated lipocalin
AUTHOR: Mishra Jaya; Mori Kiyoshi; Ma Qing; Kelly Caitlin; Yang Jun; Mitsnefes Mark; Barasch Jonathan; Devarajan Prasad
CORPORATE SOURCE: Division of Nephrology and Hypertension, MLC 7022, Cincinnati Children's Hospital Medical Center, 3333 Burnet Avenue, Cincinnati, OH 45229-3039, USA.
SOURCE: Journal of the American Society of Nephrology : JASN, (2004 Dec) Vol. 15, No. 12, pp. 3073-82.
Journal code: 9013836. ISSN: 1046-6673.
PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200501
ENTRY DATE: Entered STN: 20 Dec 2004
Last Updated on STN: 2 Feb 2005
Entered Medline: 31 Jan 2005

ED Entered STN: 20 Dec 2004
Last Updated on STN: 2 Feb 2005
Entered Medline: 31 Jan 2005

AB Acute renal failure secondary to ischemic injury remains a common problem, with limited and unsatisfactory therapeutic options. Neutrophil gelatinase-associated lipocalin (NGAL) was recently shown to be one of the maximally induced genes early in the postischemic kidney. In this study, the role of NGAL in ischemic renal injury was explored. Intravenous administration of purified recombinant NGAL in mice resulted in a rapid uptake of the protein predominantly by proximal tubule cells. In an established murine model of renal ischemia-reperfusion injury, intravenous NGAL administered before, during, or after ischemia resulted in marked amelioration of the morphologic and functional consequences, as evidenced by a significant decrease in the histopathologic damage to tubules and in serum creatinine measurements. NGAL-treated animals also displayed a reduction in the number of apoptotic tubule cells and an increase in proliferating proximal tubule cells after ischemic injury. The results indicate that NGAL may represent a novel therapeutic intervention in ischemic acute renal failure, based at least in part on its ability to tilt the balance of tubule cell fate toward survival.

L2 ANSWER 45 OF 60 MEDLINE on STN DUPLICATE 22
ACCESSION NUMBER: 2004334407 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15148457
TITLE: Neutrophil gelatinase-associated lipocalin: a novel early urinary biomarker for cisplatin nephrotoxicity.
AUTHOR: Mishra Jaya; Mori Kiyoshi; Ma Qing; Kelly Caitlin; Barasch Jonathan; Devarajan Prasad
CORPORATE SOURCE: Nephrology and Hypertension, Cincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine, Cincinnati, Ohio 45229-3039, USA.
CONTRACT NUMBER: DK52612 (NIDDK)
DK53289 (NIDDK)
DK55388 (NIDDK)
DK58872 (NIDDK)
SOURCE: American journal of nephrology, (2004 May-Jun) Vol. 24, No. 3, pp. 307-15. Electronic Publication: 2004-05-12. Journal code: 8109361. ISSN: 0250-8095.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200502
ENTRY DATE: Entered STN: 7 Jul 2004
Last Updated on STN: 4 Feb 2005
Entered Medline: 3 Feb 2005

ED Entered STN: 7 Jul 2004
Last Updated on STN: 4 Feb 2005
Entered Medline: 3 Feb 2005

AB BACKGROUND: Cisplatin is one of the most widely used chemotherapeutic agents, but the risk of nephrotoxicity frequently hinders the use of higher doses to maximize its antineoplastic effects. The lack of early biomarkers has impaired our ability to initiate potential therapeutic or preventive interventions in cisplatin nephrotoxicity in a timely manner.

In this study, we have explored the expression and urinary excretion of neutrophil gelatinase-associated lipocalin (NGAL) in a mouse model of cisplatin-induced nephrotoxic injury. METHODS: Mice were subjected to intraperitoneal injections of 20 mg/kg (high dose) or 5 mg/kg (low dose) cisplatin. The expression of NGAL was measured in the kidney and urine by Western analysis and immunofluorescence, and compared to changes in serum creatinine and urinary N-acetyl-beta-D-glucosaminidase (NAG). RESULTS: Cisplatin resulted in tubule cell necrosis and apoptosis following the high dose, but not the low dose. By Western analysis, NGAL protein was rapidly induced in the kidney within 3 h of high-dose cisplatin. By immunofluorescence, NGAL was induced predominantly in proximal tubule cells in a punctate cytoplasmic distribution, reminiscent of a secreted protein. NGAL was easily detected in the urine by Western analysis within 3 h of cisplatin administration in a dose- and duration-dependent manner. By comparison, changes in urinary NAG or serum creatinine were not evident until 96 h after cisplatin. Using defined concentrations of purified recombinant NGAL, urinary NGAL excretion following cisplatin administration was quantified to be in the 20-80 ng/ml range. CONCLUSION: The results indicate that NGAL represents an early and quantitative urinary biomarker for cisplatin nephrotoxicity.

L2 ANSWER 46 OF 60 MEDLINE on STN DUPLICATE 23
ACCESSION NUMBER: 2003454179 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14514731
TITLE: Identification of neutrophil gelatinase-associated lipocalin as a novel early urinary biomarker for ischemic renal injury.
AUTHOR: Mishra Jaya; Ma Qing; Prada Anne; Mitsnefes Mark; Zahedi Kamyar; Yang Jun; Barasch Jonathan; Devarajan Prasad
CORPORATE SOURCE: Nephrology & Hypertension, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio 45229-3039, USA.
CONTRACT NUMBER: DK52612 (NIDDK)
DK53289 (NIDDK)
DK55388 (NIDDK)
DK58872 (NIDDK)
SOURCE: Journal of the American Society of Nephrology : JASN, (2003 Oct) Vol. 14, No. 10, pp. 2534-43.
Journal code: 9013836. ISSN: 1046-6673.
PUB. COUNTRY: United States
DOCUMENT TYPE: (IN VITRO)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200409
ENTRY DATE: Entered STN: 30 Sep 2003
Last Updated on STN: 15 Sep 2004
Entered Medline: 14 Sep 2004
ED Entered STN: 30 Sep 2003
Last Updated on STN: 15 Sep 2004
Entered Medline: 14 Sep 2004
AB Acute renal failure (ARF) secondary to ischemic injury remains a common and potentially devastating problem. A transcriptome-wide interrogation strategy was used to identify renal genes that are induced very early after renal ischemia, whose protein products might serve as novel biomarkers for ARF. Seven genes that are upregulated >10-fold were identified, one of which (Cyr61) has recently been reported to be induced after renal ischemia. Unexpectedly, the induction of the other six transcripts was novel to the ARF field. In this study, one of these

previously unrecognized genes was further characterized, namely neutrophil gelatinase-associated lipocalin (NGAL), because it is a small secreted polypeptide that is protease resistant and consequently might be readily detected in the urine. The marked upregulation of NGAL mRNA and protein levels in the early postischemic mouse kidney was confirmed. NGAL protein expression was detected predominantly in proliferating cell nuclear antigen-positive proximal tubule cells, in a punctate cytoplasmic distribution that co-localized with markers of late endosomes. NGAL was easily detected in the urine in the very first urine output after ischemia in both mouse and rat models of ARF. The appearance of NGAL in the urine was related to the dose and duration of renal ischemia and preceded the appearance of other urinary markers such as N-acetyl-beta-D-glucosaminidase and beta2-microglobulin. The origin of NGAL from tubule cells was confirmed in cultured human proximal tubule cells subjected to in vitro ischemic injury, where NGAL mRNA was rapidly induced in the cells and NGAL protein was readily detectable in the culture medium within 1 h of mild ATP depletion. NGAL was also easily detectable in the urine of mice with cisplatin-induced nephrotoxicity, again preceding the appearance of N-acetyl-beta-D-glucosaminidase and beta2-microglobulin. The results indicate that NGAL may represent an early, sensitive, noninvasive urinary biomarker for ischemic and nephrotoxic renal injury.

L2 ANSWER 47 OF 60 MEDLINE on STN
ACCESSION NUMBER: 2004006529 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14703455
TITLE: Expression of matrix metalloproteinase-9 and its complex in the urine of breast cancer patients.
AUTHOR: Shen Zhe-zhu; Zhao Wei; Gu Jin; Zhang Zhi-qian; Yan Li
CORPORATE SOURCE: Department of Surgery, College of Clinical Oncology, Beijing Medical University, Beijing 100036, China.
SOURCE: Zhonghua wai ke za zhi [Chinese journal of surgery], (2003 Nov) Vol. 41, No. 11, pp. 817-9.
Journal code: 0153611. ISSN: 0529-5815.
PUB. COUNTRY: China
DOCUMENT TYPE: (ENGLISH ABSTRACT)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Chinese
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200405
ENTRY DATE: Entered STN: 6 Jan 2004
Last Updated on STN: 28 May 2004
Entered Medline: 27 May 2004
ED Entered STN: 6 Jan 2004
Last Updated on STN: 28 May 2004
Entered Medline: 27 May 2004
AB OBJECTIVE: To investigate the expression and clinical significance of matrix metalloproteinase-9 and its complex in the urine of the patient with breast cancer. METHODS: Using substract gel electrophoresis and western-blot analysis, expressions of MMP-9 and MMP-9/NGAL complex in breast cancer (n = 97), breast benign (n = 41) and normal (n = 60) were observed. RESULTS: There MMP-9 and MMP-9/NGAL complex expressions were 76.29% and 64.95% in breast cancer, 46.34% and 43.90% in breast benign, and 23.33% in normal respectively. The MMP-9 and MMP-9/NGAL complex expressions were higher in breast cancer than those in breast benign and in normal (chi(2) = 7.456, P < 0.01). MMP-9 and MMP-9/NGAL complex expressions in urine of breast cancer had not any relationship with tumor size, TNM stage, patient age, menopause status as well as ER status, but was correlated to lymphatic node status (chi(2) = 5.206, P < 0.05). CONCLUSIONS: MMP-9 and MMP-9/NGAL complex expressions in urine are significant in estimating lymphatic node metastasis in breast cancer and a valuable early prognostic factors and screening in breast cancer.

L2 ANSWER 48 OF 60 MEDLINE on STN DUPLICATE 24
ACCESSION NUMBER: 2003094612 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12605707
TITLE: Increased circulating levels of proteinase 3 in patients with anti-neutrophilic cytoplasmic autoantibodies-associated systemic vasculitis in remission.
AUTHOR: Ohlsson S; Wieslander J; Segelmark M
CORPORATE SOURCE: Department of Nephrology, Lund University Hospital, Lund, Sweden.. Sophie.Ohlsson@njur.lu.se
SOURCE: Clinical and experimental immunology, (2003 Mar) Vol. 131, No. 3, pp. 528-35.
Journal code: 0057202. ISSN: 0009-9104.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 28 Feb 2003
Last Updated on STN: 13 May 2003
Entered Medline: 9 May 2003
ED Entered STN: 28 Feb 2003
Last Updated on STN: 13 May 2003
Entered Medline: 9 May 2003
AB In systemic small vessel vasculitides, patients form autoantibodies against neutrophil granular proteins, anti-neutrophilic cytoplasmic autoantibodies (ANCA). Some correlation is seen between ANCA titre and disease activity, but whether this is cause or effect is still unknown. It has been reported that levels of proteinase 3 (PR3), one of the main ANCA antigens, are increased in patients with active disease. An increased level of circulating antigen could mean a predisposition to autoimmunity. In order to explore this we measured PR3 levels in patients with stable disease. In addition we measured neutrophil gelatinase-associated lipocalin (NGAL) as a specific marker of neutrophil degranulation, cystatin C as a marker of renal function as well as C-reactive protein (CRP), IL-6 and sTNFr1 as markers of inflammation. PR3, NGAL, IL-6 and sTNFr1 were measured in plasma by the ELISA technique. In the PR3 ELISA, we used anti-PR3 monoclonal antibodies as capture-antibodies and affinity-purified rabbit-anti-PR3 antibodies for detection. PR3-ANCA, myeloperoxidase (MPO)-ANCA, CRP and cystatin C were measured by routine methods. PR3 was significantly raised ($P < 0.0001$) in vasculitis patients (median 560 micro g/l, range 110-3,940, $n = 59$) compared with healthy blood donors (350 micro g/l, 110-580, $n = 30$) as well as disease controls (360, 110-580, $n = 46$). No correlation was seen with disease activity, inflammation or renal function. The raised NGAL levels correlated strongly with decreased renal function ($r = 0.8$, $P < 0.001$). After correcting for this, slightly increased levels (110, 42-340, $n = 59$) were observed compared with healthy blood donors (81, 38-130, $n = 25$), but not compared with the disease controls (120, 57-260, $n = 48$). In the disease controls, there was a significant correlation between NGAL and proteinase 3 ($r = 0.3$, $p < 0.05$), but this was not the case in the vasculitis patients. Whether patients had PR3-ANCA or MPO-ANCA was of no significance. In our measurements, we found significantly raised levels of PR3 in plasma from patients with small vessel vasculitis, regardless of ANCA specificity. This was not due to decreased renal function, ongoing inflammation or neutrophil activation. Plausible mechanisms for this include defects in the reticuloendothelial system, genetic factors and selective neutrophil degranulation or leakage.

L2 ANSWER 49 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2004:93450 BIOSIS

DOCUMENT NUMBER: PREV200400086642
TITLE: Identification of NGAL as a novel early urinary biomarker for ischemic renal injury.
AUTHOR(S): Mishra, Jaya [Reprint Author]; Ma, Qing [Reprint Author]; Prada, Anne [Reprint Author]; Zahedi, Kamyar [Reprint Author]; Yang, Jun; Barasch, Jonathan; Devarajan, Prasad [Reprint Author]
CORPORATE SOURCE: Nephrology and Hypertension, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA
SOURCE: Journal of the American Society of Nephrology, (November 2003) Vol. 14, No. Abstracts Issue, pp. 275A. print.
Meeting Info.: Meeting of the American Society of Nephrology Renal Week. San Diego, CA, USA. November 12-17, 2003. American Society of Nephrology.
CODEN: JASNEU. ISSN: 1046-6673.
DOCUMENT TYPE: Conference; (Meeting)
Conference; (Meeting Poster)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 11 Feb 2004
Last Updated on STN: 11 Feb 2004
ED Entered STN: 11 Feb 2004
Last Updated on STN: 11 Feb 2004

L2 ANSWER 50 OF 60 MEDLINE on STN DUPLICATE 25
ACCESSION NUMBER: 2003090296 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12573252
TITLE: Macrophage-induced rat mesangial cell expression of the 24p3-like protein alpha-2-microglobulin-related protein.
AUTHOR: Pawluczyk Izabella Z A; Furness Peter N; Harris Kevin P G
CORPORATE SOURCE: Department of Nephrology, Leicester General Hospital, Gwendolen Road, Leicester LE5 4PW, UK. iap. 1@le.ac.uk
SOURCE: Biochimica et biophysica acta, (2003 Feb 21) Vol. 1645, No. 2, pp. 218-27.
Journal code: 0217513. ISSN: 0006-3002.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 27 Feb 2003
Last Updated on STN: 8 May 2003
Entered Medline: 7 May 2003
ED Entered STN: 27 Feb 2003
Last Updated on STN: 8 May 2003
Entered Medline: 7 May 2003
AB During screening of a murine macrophage cDNA repertoire for factors potentially able to modulate glomerular cell responses to injury, we identified a gene coding for the murine protein 24p3 lipocalin. Immunostaining of normal rat kidney sections showed positive 24p3-like staining in distal tubules/collecting ducts and small muscular arteries. Although most glomeruli were negative, some did exhibit small numbers of positively stained cells. Cultured rat glomeruli and glomerular mesangial cells secreted the 24p3-like protein in response to macrophage-conditioned medium (MPCM) and the cytokine IL-1beta. MPCM derived from TGFbeta-pretreated macrophages enhanced mesangial cell 24p3 secretion. In contrast, addition of anti-IL-1beta neutralising antibody to MPCM or IL-1beta resulted in suppression of 24p3 secretion. Co-culture of mesangial cells with varying numbers of non-LPS-treated macrophages resulted in dose-dependent secretion of 24p3 into culture supernatants. Archival sections from polyvinyl alcohol-treated and cholesterol-fed rats showed positive glomerular staining for 24p3 in and around glomerular foam

cells. Nucleotide sequencing of rat mesangial cell-derived 24p3 cDNA revealed it to be identical to rat alpha-2-microglobulin-related protein (alpha2microGRP), the rat homologue of murine 24p3.These data provide the first description of rat alpha2microGRP in the context of mesangial cell pathophysiology.

L2 ANSWER 51 OF 60 MEDLINE on STN DUPLICATE 26
ACCESSION NUMBER: 2003547683 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14627119
TITLE: Ureteric bud controls multiple steps in the conversion of mesenchyme to epithelia.
AUTHOR: Mori Kiyoshi; Yang Jun; Barasch Jonathan
CORPORATE SOURCE: Department of Medicine, Columbia University, New York, NY 10032, USA.
CONTRACT NUMBER: DK 55388 (NIDDK)
DK 58872 (NIDDK)
SOURCE: Seminars in cell & developmental biology, (2003 Aug) Vol. 14, No. 4, pp. 209-16. Ref: 95
Journal code: 9607332. ISSN: 1084-9521.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200312
ENTRY DATE: Entered STN: 21 Nov 2003
Last Updated on STN: 19 Dec 2003
Entered Medline: 12 Dec 2003
ED Entered STN: 21 Nov 2003
Last Updated on STN: 19 Dec 2003
Entered Medline: 12 Dec 2003
AB Conversion of renal mesenchyme into epithelia depends on the ureteric bud, but its specific actions are not established. From conditioned media of ureteric bud cells, we have identified molecules that mimic the growth and epithelialization of mesenchyme in vivo. LIF targets late epithelial progenitors surrounding the ureteric bud, and in combination with survival factors, converts them into nephrons. In contrast, 24p3/
Ngal targets early progenitors at the kidney's periphery
through an iron-mediated, but a transferrin-independent mechanism. Hence, the ureteric bud controls many steps of cell conversion. A genome wide search for ureteric bud-specific molecules will identify additional pathways that induce morphogenesis.

L2 ANSWER 52 OF 60 MEDLINE on STN DUPLICATE 27
ACCESSION NUMBER: 2003260788 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12788784
TITLE: Iron, lipocalin, and kidney epithelia.
AUTHOR: Yang Jun; Mori Kiyoshi; Li Jau Yi; Barasch Jonathan
CORPORATE SOURCE: Dept. of Medicine and Anatomy and Cell Biology, College of Physicians and Surgeons of Columbia Univ., 630 W 168th St., New York, NY 10032, USA.
CONTRACT NUMBER: DK-55388 (NIDDK)
SOURCE: American journal of physiology. Renal physiology, (2003 Jul) Vol. 285, No. 1, pp. F9-18. Ref: 136
Journal code: 100901990. ISSN: 0363-6127.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals

ENTRY MONTH: 200307
ENTRY DATE: Entered STN: 6 Jun 2003
Last Updated on STN: 13 Jul 2003
Entered Medline: 11 Jul 2003

ED Entered STN: 6 Jun 2003
Last Updated on STN: 13 Jul 2003
Entered Medline: 11 Jul 2003

AB Brilliant new discoveries in the field of iron metabolism have revealed novel transmembrane iron transporters, novel hormones that regulate iron traffic, and iron's control of gene expression. An important role for iron in the embryonic kidney was first identified by Ekblom, who studied transferrin (Landschulz W and Ekblom P. J Biol Chem 260: 15580-15584, 1985; Landschulz W, Thesleff I, and Ekblom P. J Cell Biol 98: 596-601, 1984; Thesleff I, Partanen AM, Landschulz W, Trowbridge IS, and Ekblom P. Differentiation 30: 152- 158, 1985). Nevertheless, how iron traffics to developing organs remains obscure. This review discusses a member of the lipocalin superfamily, 24p3 or neutrophil gelatinase-associated lipocalcin (NGAL), which induces the formation of kidney epithelia. We review the data showing that lipocalins transport low-molecular-weight chemical signals and data indicating that 24p3/NGAL transports iron. We compare 24p3/NGAL to transferrin and a variety of other iron trafficking pathways and suggest specific roles for each in iron transport.

L2 ANSWER 53 OF 60 EMBASE

ACCESSION NUMBER: 2003275415 EMBASE
TITLE: Iron, lipocalin, and kidney epithelia.
AUTHOR: Yang J.; Mori K.; Li J.Y.; Barasch J.
CORPORATE SOURCE: J. Barasch, Dept. of Med./Anat. and Cell Biology, College of Physicians and Surgeons, Columbia Univ., 630 W 168th St., New York, NY 10032, United States. jmb4@columbia.edu
SOURCE: American Journal of Physiology - Renal Physiology, (1 Jul 2003) Vol. 285, No. 1 54-1,. pp. F9-F18. .
Refs: 136
ISSN: 0363-6127 CODEN: AJPPFK
COUNTRY: United States
DOCUMENT TYPE: Journal; General Review
FILE SEGMENT: 002 Physiology
028 Urology and Nephrology
029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 24 Jul 2003
Last Updated on STN: 24 Jul 2003

ED Entered STN: 24 Jul 2003
Last Updated on STN: 24 Jul 2003

AB Brilliant new discoveries in the field of iron metabolism have revealed novel transmembrane iron transporters, novel hormones that regulate iron traffic, and iron's control of gene expression. An important role for iron in the embryonic kidney was first identified by Ekblom, who studied transferrin (Landschulz W and Ekblom P. J Biol Chem 260: 15580-15584, 1985; Landschulz W, Thesleff I, and Ekblom P. J Cell Biol 98: 596-601, 1984; Thesleff I, Partanen AM, Landschulz W, Trowbridge IS, and Ekblom P. Differentiation 30: 152-158, 1985). Nevertheless, how iron traffics to developing organs remains obscure. This review discusses a member of the lipocalin superfamily, 24p3 or neutrophil gelatinase-associated lipocalcin (NGAL), which induces the formation of kidney epithelia. We review the data showing that lipocalins transport low-molecular-weight chemical signals and data indicating that 24p3/NGAL transports iron. We compare 24p3/NGAL to transferrin and a variety of other iron trafficking pathways and suggest specific roles for each in iron transport.

L2 ANSWER 54 OF 60 MEDLINE on STN DUPLICATE 28
ACCESSION NUMBER: 2002500356 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12361901
TITLE: Urinary release of 72 and 92 kDa gelatinases, TIMPs, N-GAL and conventional prognostic factors in urothelial carcinomas.
AUTHOR: Monier Frederique; Mollier Serge; Guillot Michele; Rambeaud Jean-Jaques; Morel Francoise; Zaoui Philippe
CORPORATE SOURCE: GREPI, EA 2938, Laboratory of Enzymology, CHU Grenoble, France.
SOURCE: European urology, (2002 Oct) Vol. 42, No. 4, pp. 356-63. Journal code: 7512719. ISSN: 0302-2838.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 4 Oct 2002
Last Updated on STN: 21 May 2003
Entered Medline: 20 May 2003
ED Entered STN: 4 Oct 2002
Last Updated on STN: 21 May 2003
Entered Medline: 20 May 2003
AB OBJECTIVES: A urinary release of gelatinases A and B matrix metalloproteinases-2, -9 (MMP-2, -9), and tissue inhibitors (TIMP-1, -2) occurs during normal epithelial turnover. A proteinase increase, reduced inhibitors or both potentially account for cell mobility and bladder cancer progression. In order to define normal levels and thresholds for transitional cell carcinoma (TCC) patients, urinary gelatinases, tissue inhibitors and neutrophil-gelatinase-associated lipocalin (N-GAL) were investigated for end-point clinical status and compared with normal subjects during a 2-year follow-up prospective study. METHODS: Urine specimens [50 adult normal controls; 28 in situ carcinoma patients (pTa) and 23 with ruptured basement membrane (pT1-4)] were screened by gelatin zymograms, immunoblots and ELISA. RESULTS: (1) An important release of inhibitors over low levels of active enzymes was observed in controls independently of age and sex except for higher TIMP-1 levels in males. (2) In cancer patients, increased pro-MMP-9 and active MMP-2 with reduced TIMP-2 levels correlated with higher stages and histological grades. (3) Conversely, reduced MMP-9 and lipocalin levels were initial hallmarks of clinical relapses. CONCLUSIONS: The imbalance between increased MMP-2, -9 and decreased TIMP-2 levels appears to be linked to tumor stage and grade and, more importantly, to clinical events. Changes in the MMP-9 activation state and a lack of N-GAL present as novel markers of tumor progression.

L2 ANSWER 55 OF 60 MEDLINE on STN DUPLICATE 29
ACCESSION NUMBER: 2001532372 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11486009
TITLE: The high molecular weight urinary matrix metalloproteinase (MMP) activity is a complex of gelatinase B/MMP-9 and neutrophil gelatinase-associated lipocalin (NGAL). Modulation of MMP-9 activity by NGAL.
AUTHOR: Yan L; Borregaard N; Kjeldsen L; Moses M A
CORPORATE SOURCE: Department of Surgery, Children's Hospital, Harvard Medical School, Boston, Massachusetts 02115, USA.
SOURCE: The Journal of biological chemistry, (2001 Oct 5) Vol. 276, No. 40, pp. 37258-65. Electronic Publication: 2001-08-02. Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 2 Oct 2001
Last Updated on STN: 5 Jan 2003
Entered Medline: 4 Dec 2001

ED Entered STN: 2 Oct 2001
Last Updated on STN: 5 Jan 2003
Entered Medline: 4 Dec 2001

AB Detection of matrix metalloproteinase (MMP) activities in the urine from patients with a variety of cancers has been closely correlated to disease status. Among these activities, the presence of a group of high molecular weight (HMW) MMPs independently serves as a multivariate predictor of the metastatic phenotype (). The identity of these HMW MMP activities has remained unknown despite their novelty and their potentially important applications in non-invasive cancer diagnosis and/or prognosis. Here, we report the identification of one of these HMW urinary MMPs of approximately 125-kDa as being a complex of gelatinase B (MMP-9) and neutrophil gelatinase-associated lipocalin (NGAL). Multiple biochemical approaches verified this identity. Analysis using substrate gel electrophoresis demonstrated that the 125-kDa urinary MMP activity co-migrates with purified human neutrophil MMP-9 x NGAL complex. The 125-kDa urinary MMP-9 x NGAL complex was recognized by a purified antibody against human NGAL as well as by a monospecific anti-human MMP-9 antibody. Furthermore, these same two antibodies were independently capable of specifically immunoprecipitating the 125-kDa urinary MMP activity in a dose-dependent manner. In addition, the complex of MMP-9 x NGAL could be reconstituted in vitro by mixing MMP-9 and NGAL in gelatinase buffers with pH values in the range of urine and in normal urine as well. Finally, the biochemical consequences of the NGAL and MMP-9 interaction were investigated both in vitro using recombinant human NGAL and MMP-9 and in cell culture by overexpressing NGAL in human breast carcinoma cells. Our data demonstrate that NGAL is capable of protecting MMP-9 from degradation in a dose-dependent manner and thereby preserving MMP-9 enzymatic activity. In summary, this study identifies the 125-kDa urinary gelatinase as being a complex of MMP-9 and NGAL and provides evidence that NGAL modulates MMP-9 activity by protecting it from degradation.

L2 ANSWER 56 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN

ACCESSION NUMBER: 2002:321103 BIOSIS
DOCUMENT NUMBER: PREV200200321103
TITLE: Co-regulation of neutrophil gelatinase-associated lipocalin and matrix metalloproteinase-9 in the postischemic rat kidney.
AUTHOR(S): Matthaeus, T. [Reprint author]; Schulze-Lohoff, E. [Reprint author]; Ichimura, T. [Reprint author]; Weber, M.; Andreucci, M. [Reprint author]; Park, K. M. [Reprint author]; Alessandrini, A. [Reprint author]; Bonventre, J. V. [Reprint author]
CORPORATE SOURCE: Renal Unit, Mass. General Hospital, Boston, MA, USA
SOURCE: Journal of the American Society of Nephrology, (September, 2001) Vol. 12, No. Program and Abstract Issue, pp. 787A. print.
Meeting Info.: ASN (American Society of Nephrology)/ISN (International Society of Nephrology) World Congress of Nephrology. San Francisco, CA, USA. October 10-17, 2001.
CODEN: JASNEU. ISSN: 1046-6673.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
Conference; (Meeting Poster)
LANGUAGE: English
ENTRY DATE: Entered STN: 5 Jun 2002

Last Updated on STN: 5 Jun 2002
ED Entered STN: 5 Jun 2002
Last Updated on STN: 5 Jun 2002

L2 ANSWER 57 OF 60 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN
ACCESSION NUMBER: 2002:6720 BIOSIS
DOCUMENT NUMBER: PREV200200006720
TITLE: Acute ischemic renal failure induces expression of neutrophil gelatinase-associated lipocalin and matrix metalloproteinase-9 in damaged tubuli.
AUTHOR(S): Matthaeus, T. [Reprint author]; Weber, M. [Reprint author]; Alessandrini, A.; Bonventre, J.; Schulze-Lohoff, E. [Reprint author]
CORPORATE SOURCE: Medizinische Klinik I, Klinikum Koeln-Merheim, Koeln, Germany
SOURCE: Kidney and Blood Pressure Research, (2001) Vol. 24, No. 4-6, pp. 342. print.
Meeting Info.: Joint Scientific Meeting of the Nephrology Society and the German Working Group for Clinical Nephrology. Munster, Germany. September 29-October 02, 2001.
ISSN: 1420-4096.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 28 Dec 2001
Last Updated on STN: 25 Feb 2002
ED Entered STN: 28 Dec 2001
Last Updated on STN: 25 Feb 2002

L2 ANSWER 58 OF 60 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:490270 CAPLUS
DOCUMENT NUMBER: 133:264743
TITLE: Gelatinase isoforms in urine from bladder cancer patients
AUTHOR(S): Monier, F.; Surla, A.; Guillot, M.; Morel, F.
CORPORATE SOURCE: MENRT, CHU Albert Michallon, EA 2938 GREPI and Laboratoire d'Enzymologie, Grenoble, 38043, Fr.
SOURCE: Clinica Chimica Acta (2000), 299(1-2), 11-23
CODEN: CCATAR; ISSN: 0009-8981
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 20 Jul 2000
AB Matrix metalloproteinases are involved in tumor invasion and metastasis in many types of human carcinomas, in leukocyte infiltration and inflammatory reactions. Three metalloproteinases with gelatinolytic activity were isolated from the urine of patients with untreated high grade bladder cancer or with functioning renal grafts (control). Urinary proteins were fractionated after concentration by continuous-elution SDS-PAGE. Collected fractions were analyzed by gelatin zymog. and Western blotting. The one-step purification process isolated the gelatinase species from crude urine samples: (1) a 72 kDa progelatinase A (MMP-2) and its active 68 kDa form; (2) a 92 kDa progelatinase B (MMP-9); (3) a higher mol. weight (HMW) complex (115 kDa) which was identified as progelatinase B associated with lipocalin, NGAL. A similar marker profile was observed in bladder cancer tissues. The current study demonstrated the efficiency of continuous elution electrophoresis. It offered two main advantages: (1) the separation of latent from active gelatinase isoforms with no interference from the TIMPs and (2) the identification and isolation in a single step of large amts. of urine gelatinase species with both high recovery and significant specific activities. Continuous-elution electrophoresis can be used for

correlation with clin. events of bladder cancer diagnosis and prognosis.
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 59 OF 60 MEDLINE on STN DUPLICATE 30
ACCESSION NUMBER: 1999402556 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10475571
TITLE: Neutrophil gelatinase-associated lipocalin in normal and neoplastic human tissues. Cell type-specific pattern of expression.
AUTHOR: Friedl A; Stoesz S P; Buckley P; Gould M N
CORPORATE SOURCE: Department of Pathology and Laboratory Medicine, Madison, WI 53792, USA.
CONTRACT NUMBER: P30-CA54174 (NCI)
P50-CA58183 (NCI)
R01-CA58328 (NCI)
+
SOURCE: The Histochemical journal, (1999 Jul) Vol. 31, No. 7, pp. 433-41.
Journal code: 0163161. ISSN: 0018-2214.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199910
ENTRY DATE: Entered STN: 14 Oct 1999
Last Updated on STN: 3 Mar 2000
Entered Medline: 7 Oct 1999
ED Entered STN: 14 Oct 1999
Last Updated on STN: 3 Mar 2000
Entered Medline: 7 Oct 1999
AB Neutrophil gelatinase-associated lipocalin (NGAL) has recently been identified in myeloperoxidase-negative neutrophil granules. Members of the lipocalin family are thought to bind and transport small lipophilic molecules such as retinoids and roles in cell regulation have been proposed. Recently, NGAL has also been demonstrated in the colonic mucosa in certain pathologic conditions. The aim of this study was to examine the distribution of NGAL in normal and neoplastic tissues by immunohistochemistry. Interestingly, NGAL was found in a variety of normal and pathological human tissues. A cell type-specific pattern of expression was seen in bronchus, stomach, small intestine, pancreas, kidney, prostate gland, and thymus. The comparative analysis of the putative rat homologue neu-related lipocalin showed a very similar pattern of expression with the exception of pancreas and kidney. Neoplastic human tissues showed a very heterogeneous expression of NGAL protein. High NGAL levels were found in adenocarcinomas of lung, colon and pancreas. In contrast, renal cell carcinomas of various subtypes and prostate cancers contained low NGAL levels. Lymphomas and thymic tumours were negative for NGAL immuno-labeling. Knowledge about the location of NGAL in normal cells and in disease states provides the first clues towards understanding its biological function.

L2 ANSWER 60 OF 60 MEDLINE on STN DUPLICATE 31
ACCESSION NUMBER: 96053553 MEDLINE
DOCUMENT NUMBER: PubMed ID: 7554268
TITLE: A sandwich enzyme immunoassay for the determination of neutrophil lipocalin in body fluids.
AUTHOR: Blaser J; Triebel S; Tschesche H
CORPORATE SOURCE: Faculty of Chemistry, Department of Biochemistry, University of Bielefeld, Germany.
SOURCE: Clinica chimica acta; international journal of clinical chemistry, (1995 Mar 31) Vol. 235, No. 2, pp. 137-45.
Journal code: 1302422. ISSN: 0009-8981.

PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199511
ENTRY DATE: Entered STN: 27 Dec 1995
Last Updated on STN: 27 Dec 1995
Entered Medline: 20 Nov 1995

ED Entered STN: 27 Dec 1995
Last Updated on STN: 27 Dec 1995
Entered Medline: 20 Nov 1995

AB Human neutrophil lipocalin was purified from human buffycoat. A polyclonal antibody was obtained by immunisation of rabbits. The antibody reacted with the free lipocalin as well as with the PMNL-gelatinase bound protein. This antibody was used to establish a sensitive sandwich-ELISA for the determination of the protein in body fluids using the biotin/streptavidin system. The mean intra-assay C.V. was 2.3% and the mean inter-assay C.V. 6.7%. The recovery in human plasma was determined to be 98.8%. The ELISA allowed the determination of the protein in the concentration range 0.2-25 micrograms/l. Measurement of the neutrophil lipocalin concentration showed that human plasma of healthy donors contained 9.7 +/- 81 micrograms/l (n = 122) and that the concentrations in serum were significantly higher (P < 0.001) with 133 +/- 90 micrograms/l (n = 122). Neutrophil lipocalin was also found in the urine of healthy donors (8.1 micrograms/l; n = 9). Very high concentrations of this lipocalin were found in the synovial fluids of patients suffering from inflammatory rheumatoid arthritis (1.7 +/- 1.4 mg/l; n = 37).

=> d his

(FILE 'HOME' ENTERED AT 13:00:18 ON 21 MAY 2007)

FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE' ENTERED AT 13:00:31 ON 21 MAY 2007
L1 132 S (NGAL OR (NEUTROPHIL(3A)LIPOCALIN) OR HNL OR 24P3 OR ONCOGENE
L2 60 DUP REM L1 (72 DUPLICATES REMOVED)